

APPLIED **MECHANICS**

AN ASSESSMENT OF THE WORLD LITERATURE IN **ENGINEERING SCIENCES**

ANNUAL INDEX ISSUE VOLUME 36, 1983

AUTHORS and KEY WORDS in ALPHABETICAL SEQUENCE

AMR



AN ASSESSMENT OF THE WORLD LITERATURE IN

ENGINEERING SCIENCES

ANNUAL INDEX VOL. 36, 1983

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GUIDE TO AKWAS

(AUTHOR AND KEY WORDS IN ALPHA SEQUENCE)

A. Introduction

AKWAS, which provides subject and author access to AMR, is loosely based on indexing principles used for many years by Excerpta Medica, Amsterdam, one of the world's largest producers of printed Indexes. It also incorporates some features of WADEX (Word & Author InDEX) an experimental index of AMR.

Each review in this volume was indexed by a subject specialist. The indexing record was put into machine readable form and edited. Specially prepared computer programs were used to sort the entries and to generate the printed index through a Hendrix-Compugraphic typesetting system.

B. Vocabulary

The terms used in indexing are drawn from a controlled vocabulary, the List of Index Terms (LIT), prepared by AMR. This list is partially reproduced in the present volume. Terms not used for the 1981 index are not listed. Where the LIT did not contain all terms needed to fully describe a particular publication, the indexer could also use other terms. These additional free terms become candidates for inclusion in next year's LIT. The list also contains "see" and "see also" references.

In order to bring related topics together, some terms appear in an inverted form, e.g., "shells (cylindrical)" rather than "cylindrical shells". Certain LIT terms have been designated as "forbidden words" and are preceded by an asterisk. These are mostly non-specific terms that tend to occur rather frequently, such as "numerical results" or "theory". Forbidden words may also be terms which though not used frequently, would not be considered as search terms. The forbidden words do not generate subject entries in AKWAS, but appear as descriptive modifiers.

C. Description of Entry and Modifiers

The indexing terms may be single or composite. As many terms are used as are needed to describe a publication adequately. For each entry, all the LIT terms and free terms are arranged in a single alphabetical sequence followed by author(s) and item numbers as in the following example:

cardiovascular system, aortic valve, cavities, laminar flow, numerical methods, pipe flow, unsteady flow, valves, Gillani (N.V.), Swanson (W.M.), 3100

The string of subject terms in each group serves as a kind of "mini abstract" showing the major subject dealt with in the publication. The publication is also listed under several other entries, each additional entry being extracted from the above modifier group. The AKWAS is an alphabetically "rotated" index because most of the terms used to index a particular publication will be rotated alphabetically into the entry term position, the other terms appearing as modifiers in strict alphabetical sequence. Thus, the string of terms used in the previous example will generate the following additional subject entries:

cavities, aortic valve, cardiovascular system, laminar flow, numerical methods, pipe flow, unsteady flow, valves, Gillani (N.V.), Swanson (W.M.), 3100

Gillani (N.V.), aortic valve, cardiovascular system, cavities, laminar flow, numerical methods, pipe flow, unsteady flow, valves, Swanson (W.M.), 3100

laminar flow, aortic valve, cardiovascular system, cavities, numericai methods, pipe flow, unsteady flow, valves, Gillani (N.V.), Swanson (W.M.), 3100

Swanson (W.M.), see Gillani (N.V.), 3100

unsteady flow, aortic valve, cardiovascular system, cavities, laminar flow, numerical methods, pipe flow, valves, Gillani (N.V.), Swanson (W.M.), 3100

valves, aortic valve, cardiovascular system, cavities, laminar flow, numerical methods, pipe flow, unsteady flow, Gillani (N.V.), Swanson (W.M.), 3100

AKWAS is therefore a multi-access index since a publication indexed under multiple terms could conceivably appear under any one of them. There are two types of terms, however, that are never rotated into the entry term position—the free terms and the forbidden words. They are used only as modifiers and never generate their own entries. In the above example, the terms "numerical methods" and "pipe flow" are forbidden terms and "aortic valve" is a free term; thus, they do not appear as entries.

D. Formatting

1. Alphabetization Convention

The following convention was used: Space, parenthesis, period, hyphen, and apostrophe represent hypothetical letters preceding "a" in the alphabet; any other punctuation marks count as letters following the letter "z" in the alphabet.

2. Typography and Punctuation

A number of type faces have been employed in AKWAS to make it easier to use. All entry terms appear in bold face and all modifiers in a medium type font. Sanserif is used for names of authors and serif for subject terms. Item numbers appear in italics. (There is a total of five type fonts.)

Punctuation marks are avoided wherever possible, and capitalization is not used in subject terms; thus, Runge-Kutta Method appears as "runge-kutta method".

3. Multiple Entries

Publications listed under a single entry term are arranged in numerical sequence by their AMR review numbers. This is intended to aid the systematic searching of the annual volume of AMR and to reduce the need for the user to jump backwards and forwards from one monthly issue to another which would have been the case had an alphabetical sequencing by the first modifier been used.

Entry terms are not repeated. Instead, "bullets" are used in place of the entry term in the second and subsequent index entries, as in the example.

cardiovascular system, blood, cellular flow, Monti (R.), 1650

- cardiac output measurement, respiratory system, Homer (L.D.), Denysyk (B.), 1653
- aortic valve, cavities, laminar flow, numerical methods, pipe flow, unsteady flow, valves, Gillani (N.V.), Swanson (W.M.), 3100
- --- 4434
- --- 6282

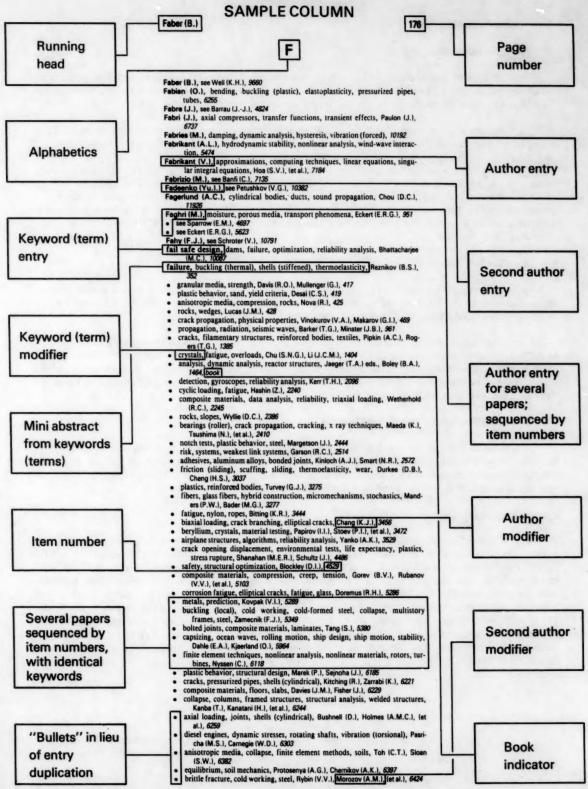
4. Running Heads

The first and last entry on a page is indicated with "running heads" on the upper left and right side of the page. If the first item on a page is "bulleted" then the left-hand running head is the last entry on the previous page. On those pages where only "bullets" appear (heavily used entry terms), the last entry on the previous page will be given on both left and right.

5. Sample Page

The figure indicates a sample column of AKWAS. The "legend" on the left-hand and right-hand side clarifies the elements of AKWAS.

AKWAJ



E. Search Strategy

1. Author Search

Names of authors, like subject entries, are listed alphabetically. In papers with two authors, the second author is referred to the first author with the word "see," name of first author and the item number. In papers with three or more authors, "et al." is used for the third and consecutive authors.

Authors using unlike initials in different publications are listed as in the journals. Thus, Jones (A.), and Jones (A.B.) might be the same individual.

Some problems can occur in the searching of Russian names in AKWAS due to different transliteration systems. AMR uses the ANSI standard for the transliteration of cyrillic names. This might be different from the transliteration used by journals that are translated cover-to-cover or by the Russian author whose paper appears in a Western journal. AMR uses Russian names published in Roman alphabet in the form as they are printed. Thus, a name beginning "Ia" might appear also as "Ya" or "Ja". Similiarly "Io" could appear as "Yo" or "Jo.".

2. Subject Search

In developing a search strategy, it will be useful to look first at the LIT since this tool contains cross-references among terms whose meanings are related. When initiating a search in AKWAS under a particular keyword (term), some modifiers may suggest alternate approaches.

Search time will be reduced by investigating the frequency with which the indexing terms are used in AKWAS, and beginning the search under the term that occurs least frequently. For example, when searching for publications dealing with cardiovascular systems, valves, and unsteady flow, the search should start under "cardiovascular system", which may appear in an AKWAS 7 times, as compared to 21 times for "valves", and 184 times for "unsteady flow."

3. Locating Publications by Item Number

The AKWAS search yields item numbers (printed in italics). In the case of a subject entry which has many bulleted items the item numbers will be consecutive and thus easily located. In the case of several subject entries and/or authors the Guide to Monthly Entries (located on Table of Contents page as well as on back cover) should be consulted to find in which monthly issue to look.

F. Acknowledgements

The "rotated" alphabetical index approach as used by Excerpta Medica, was suggested by AMR Consultant F. Wilfrid Lancaster, Professor of Library Science at the University of Illinois. He contributed significantly to the development of AKWAS and also to the production of guidelines for indexers. AKWAS also contains several features of the earlier AMR experimental index called WADEX. The design of the AKWAS system was performed by Dr. James M. Knox of CyberSearch. Dr. Ching Yew and Dr. Parker Lamb of the University of Texas at Austin provided valuable assistance with the development of this volume of AKWAS. The Publications Processing Unit of SwRI handled the computer typesetting under the direction of Mr. Don W. Moore and Mrs. Billie Ford; and Ms. Maureen Funnell of Southwest Research Center was responsible for copyreading. The names of the 19 indexers and all subject specialists are listed on the masthead page of this AKWAS.

Stephen Juhasz Editor Emeritus

LIST OF INDEX TERMS (LIT)

ablation (see also: sublimation) abrasion (see also: wear) absorption

accelerated testing *acceleration acceleration waves

accelerators accelerometers acoustic emission acoustic loading

acoustic measurements (see also: noise measurements)

acoustic properties acoustic waves

acoustical instruments

acoustics (see also: aerothermodynamics, anechoic chambers, echos, far field radiation, geometric acoustics, hearing, helmholtz resonator, lighthill acoustic analogy, noise, sound, underwater acoustics, vibration)

acoustics (architectural) acoustics (physiological) acoustoelasticity

actuator theory

adaptive systems (see also: automatic control)

additives adhesion

adhesives (see also: cements, bonded joints)

adiabatic processes

adsorption

aerodynamic coefficients (see also: drag coefficient, induced drag, lift coefficient, moment coefficient, stability derivatives)

aerodynamic excitation

aerodynamic heating aerodynamic interference (see also: ground effect, wing tail interference) aerodynamic loads (see also: drag, lift)

aerodynamic noise (see: noise (aerodynamic))

aerodynamic performance

aerodynamics

aeroelasticity (see also: flutter, gust loads, hydroelasticity, vibration (flow induced))

aeroelasticity (dynamic) aeroelasticity (static)

aerosols

aerospace

aerospace vehicles (see also: airplanes, space vehicles)

aerothermoacoustics

aerothermodynamics (see also: aerodynamic heating, heat transfer)

afterbodies aggregates aging

air conditioning (see also: cooling, heating, refrigeration)

air pollution

air water entry aircraft (see: airplanes)

airfoil characteristics (see also: aerodynamic coefficients, stalling)

airfoil theory

airfoils (see also: leading edge, trailing edge, wings)

airplane performance airplane structures

airplanes (see also: aeroelasticity, afterbodies, gliders, helicopters, high lift devices, pitching, rolling, yaw-

alfven number

algorithms alloys (see also: aluminum alloys, copper alloys, magnesium alloys, nickel alloys)

aluminum alloys

*amplification analog computation analog simulation

analogies (see also: electrical analogies, lighthill acoustic analogy, reynolds analogy)

*analysis (see also: harmonic analysis)

*analytical methods

anchors

anechoic chambers anemometers (see also: hot film, hot

anisotropic beams (see: beams (anisotropic))

anisotropic media (see also: orthotropic materials) anisotropic plates (see: plates (aniso-

tropic)) anisotropic shells (see: shells (aniso-

tropic)) anisotropic structures (see also: honeycomb structures)

anisotropy annealing (see: stress relieving)

annular flow annuli

antennas (see also: towers)

aorta aortic valve

approximation methods (see also: chebyshev approximations)

approximation theory approximations

approximations (higher order) approximations (polynomial)

aquifers arbitrary loads arc welding

arch dams arches (see also: frames)

architecture arcjets arcs

argon

arteries (see also: aorta) artificial intelligence

artificial satellites (see also: celestial mechanics, communication satellites, geodetic satellites, orbit mechanics, satellites)

ascent asteroids

astronautics (see also: artificial satellites, celestial mechanics, interplanetary probes, lunar missions, missiles. orbit mechanics, reentry, rockets,

space vehicles) astrophysics (see also: celestial me-chanics, galactic system, orbit mechanics, solar system)

asymptotic behavior

asymptotic methods (see also: perturbation methods)

atmosphere (see also: planetary atmospheres, upper atmosphere) atmospheric circulation

atomization (see also: sprays) attenuation (see also: damping)

attitude control audiology (see: hearing) augmentation

autofrettage (see also: prestressed structures)

automatic control (see also: adaptive systems, biocontrol, control stability, guidance systems, data analysis, derivative control, digital control, feedback, fluidics, gyroscopes, large scale systems, man machine systems, modal control, numerical control, operational methods, robotics, servomechanisms, simulation, statistical control, steering, switching, time delay systems)

automobiles averaging axial compressors axial flow (see also: helical flow, rotational flow) axial loading axial pumps axial turbines

axisymmetric flow

axisymmetric loading

automation

baffles balance system balancing ball bearings (see: bearings (ball)) ballistics (see also: deflagration, detonation, explosives, guns, missiles, penetration, projectiles) ballistics (exterior) ballistics (interior) ballistics (terminal) (see also: ricochet) balloons (see also: airships) banach space bang-bang control baroclinic instability baroclinic waves barriers bars (see also: curved bars)

^{*}Term is a "forbidden term". It is used as a modifier, but not as an entry.

base flow (see also: wakes) bauschinger effect beaches (see also: coasts) beam columns beam plasma interactions beams (see also: elastic foundations, energy methods, girders, influence lines, rails, rotary inertia, sandwich construction, shear lag, statically indeterminate structures, thermoelasticity) beams (anisotropic) beams (box) beams (cantilever) beams (composite) beams (continuous) beams (curved) beams (elastic) beams (flexural) beams (open section) beams (plastic) beams (prestressed) beams (sandwich) beams (thin section) beams (timoshenko) beams (torsional) beams (variable cross section) bearing capacity bearings (see also: lubrication, soft layers) bearings (ball) bearings (foil) bearings (gas lubricated) bearings (hydrodynamic) bearings (hydrostatic) bearings (journal) bearings (liquid lubricated) bearings (magnetic) bearings (porous metal) bearings (roller) bearings (slider) bearings (spherical) bearings (thrust) bearings (tilted pad) bearings (unlubricated) bed load bellows belts (see also: cables, chains) bending (see also: flexure) bending (elastic) bending (plastic) bending (viscoelastic) bending (viscoplastic) bending elements bends (see also: ducts, pipes) bessel functions bak model biaxial loading bibliography bifurcation biharmonic equation bilinear systems bimodulus materials binary flow bins (see also: bunkers) biocontrol (see also: man machine sysbiodynamics (see also: human engineering, sports medicine)

biological data processing

biological joints

biomathematics

biomaterials

biomechanics (see also: biological joints, bones, heat transfer (biological), human engineering, kinematics, locomotion, man machine systems, synovial fluids) biopropulsion biot number birefringence birefringent materials hlades blanking blast effects (see also: explosions, explosive loading) blast loading (see: explosive loading) blast waves (see also: explosions, explosive loading) blasting blood blood flow (see also: stenoses) blood vessels (see also: arteries, cardiovascular system, peristaltic flow) blowers (see: compressors) blowing (see: fluid injection) blowoff (see also: combustion) blunt bodies bodies (liquid filled) bodies of revolution (see also: ogives, shells, spherical bodies) boilers (see also; heat exchangers, refractories) boiling (see also: film boiling, leidenfrost phenomenon, nucleate boiling, pool boiling, rewetting, transition boiling) bolted joints bolts boltzmann equation bond characteristics bond graphs bonded joints (see also: adhesives) bonding (see also: joining) bones (see also: collagen, joints, knees, skull, spine) boreholes bores bottom irregularities boundary conditions boundary elements boundary integral methods boundary layer (see also: aerodynamic heating, cooling, falkner-skan equation, heat transfer, mass transfer, reynolds analogy, shear layer, skin friction, slots, sublayers, swimming propulsion, transpiration, wakes) boundary layer (atmospheric) boundary layer (control) (see also: fluid injection, suction) boundary layer (thermal) boundary layer (three dimensional) boundary layer (turbulent) boundary lubrication (see: lubrication (boundary)) boundary roughness boundary value problems (see also: cauchy problem, dirichlet problem, eigenvalue problems) bounded media bounded variables boussinesq equation box beams (see: beams (box)) box girder bridges (see: bridges (box girder))

brain brakes brazed joints breakers (see also: surf) hreakwater bridges (see also: cable stayed bridges, foundations, piers) bridges (box girder) bridges (highway) bridges (railroad) bridges (suspension) bridges (truss)
brittle fracture (see also: fracture toughness) brittle materials brownian motion bubble dynamics bubbly flow buckling (see also: postbuckling behavior, prebuckling behavior, snap-through, structural stability, warpbuckling (experimental) buckling (local) buckling (nonlinear) buckling (plastic) buckling (shear) buckling (thermal) buckling (torsional) buckling (variable section) buckling modes buffeting (see: gust loads) buildings (see also: foundations, structures, windows) buildings (tall) (see also: shear walls) bulkheads bullets bunkers buoyancy buoyant flow buoys burgers equation buried structures burmester configuration burners burning rate burning velocity butt welding

C

cable staved bridges cable supported structures cables (see also: belts, flexible filaments, strings, towing cables) calibration calorimeters calorimetry cams canals (see also: channels) capillary flow capillary waves carbides carbon carbon dioxide cardiovascular system (see also: blood, heart) cartilage cascades casting catalyzed ignition catastrophe theory

^{*}Term is a "forbidden term". It is used as a modifier, but not as an entry.

cauchy problem cavitation (see also: bubble dynamics, erosion, fretting, weer) cavitation flow cavitation inception cavities celestial mechanics (see also: artificial satellites, interplanetary probes, kepler orbits, lunar missions, n body problems, orbit mechanics, reentry, three body problem) cell behavior cellular flow cellular motions cements central nervous system (see: nervous system) centrifugal compressors centrifugal fans centrifugal pumps centrifugal turbines centrifugation ceramics channel flow (see also: closed conduit flow, duct flow) channels (see also: canals, irrigation, pipe flow, streams) channels (closed) characteristic methods (see also: slip line methods) charged particles charpy tests chatter chebyshev approximations chemical engineering chemical kinetics chemical reactions (see also: exothermic reactions, oxidation) chemical reactors chemical thermodynamics chemically reactive flow chest (see: thorax) chimneys (see also: thermal plumes, towers) chip formation choked flow circulation (see also: microcirculation, recirculation) circulatory systems circumnavigation cladding classification clay climatology (see also: meteorology) closed conduit flow (see also: channel flow, duct flow) closed cycle closure (see also: crack closure) clouds (see also: meteorology, precipitation) clutches coagulation coal (see also: gasification) coanda effect coastal engineering coasts (see also: beaches, harbors, lakes) coatings (see also: cladding, films, lubricants) coatings (brittle) coaxial jets cochlea (see also: ear)

codes coding (see also: computer programming, computing techniques, linear programming, nonlinear programming) coherent structure cold working (see also: work hardening) collagen collapse collectors collision models collocation colloids (see also: surfactants, suspensions) columns (see also: beams, beam columns, struts) columns (eccentrically loaded) combined loading combustion (see also: blowoff, boilers, burners, burning rate, chemical kinetics, deflagration, detonation, explosions, fire, flames, flue gases, fuel economy, fuels, furnaces, igaition, knocking, propellants, rockets, sprays, stabilization) combustion (laminar) combustion (oscillatory) combustion (pulsatory) combustion (turbulent) combustion (unsteady) combustion chambers (see also: combustors) combustion instability combustion products combustors (see also: combustion chambers) comminution (see also: crushing, grinding) communication satellites compaction complex variables (see also: conformal mapping, pole placement) composite materials (see also: delamination, laminates, metallic compos-ites, polycrystalline materials, whiskers) composite pressure vessels composite structures composite vessels composition compressibility compressible flow (see also: aerothermoacoustics, aerothermodynamics, boundary layer, deflagration, detonation, diffusers, jets, rarefied gases, shock waves, spherical waves) compression (see also: expansion) compressional waves compressors (see also: axial compressors, centrifugal compressors, radial compressors, superchargers, turbines, turbomachinery) computational techniques (see: computing techniques) computer aided design computer aided manufacturing computer algebra computer graphics computer programming (see also: coding) computing techniques (see also: analog

tal analog computation, finite element techniques, simulation) concentration concrete (see also: foundations, masonry, precast concrete, prestressed concrete, reinforced concrete, walls) condensation condensation (dropwise) condensation (filmwise) condensers conducting fluid conduction conduction (heat) conduction (steady) conduction (unsteady) conductivity (see also: electrical conductivity) conduits (see also: closed conduit flow) confined jets conformal mapping (see also: complex variables) conical bodies (see also: shells (conicall) conical flow connected bodies connections conservation laws consolidation (see also: soil consolidation) constant velocity couplings constitutive equations constitutive relations constraints construction contact angle contact fronts contact problems contact resistance contact stresses containers (see also: bunkers, bins, silos, tanks) containers (partially filled) containment contamination continuous burn propulsion continuous systems continuum mechanics (see also: cosserat solids, elasticity, internal state variables, micropolar media, plasticity, rheology, viscoelasticity) continuum mechanics (nonlocal) continuum theory contraction (see also: expansion) control (see also: automatic control, bang-bang control, biocontrol, fuzzy control, optimal control, remote control) control stability (see also: automatic control) control surfaces controllability convection (see also: convection (benard), nusselt number, peclet number, plates (vertical)) convection (benard) (see also: rayleigh benard instability) convection (forced) convection (free) (see also: boussinesq equation, richardson number, thermal plumes) convergence *conversion conveyors coolers

computation, boundary integral

methods, coding, data analysis, digi-

^{*}Term is a "forbidden term". It is used as a modifier, but not as an entry.

cooling (see also: film cooling, impingement cooling, surface jets, transpiration cooling) cooling ponds cooling towers *coordinate systems copper copper alloys coriolis forces COPPERS *corrections *correlation corrosion (see also: oxidation, stress corrosion) corrosion fatigue cosserat solids (see also: micropolar media) couette flow counterflow (see also: heat exchangers (crossflow)) couple stresses couplings crack arrest crack branching crack closure crack coalescence crack control crack growth crack initiation crack opening displacement crack penetration crack propagation (see also: brittle fracture, fatigue, fracture) crack resistance crack retardation crack tip geometry (see also: surface flaws) crack tip opening (see: crack opening displacement) cracking cracks (see also: edge cracks, griffith cracks, flaws, interface cracks, microcracks, multiple cracks) cranes cranium (see: skull) crankshafts cratering crazing creep (see also: buckling, relaxation, stress relaxation, stresses, viscoelasticity) creep buckling creep rupture creeping flow critical flow (see also: supercritical flow) critical heat flux critical load critical phenomena critical region critical speed crossflow crushing cryogenics (see also: heat transfer, low temperature)
crystallography (see also: dislocations) crystals culverts cumulative damage (see: damage (cumulative))

curve fitting (see also: smoothing of curved bars curved surfaces cutting (see also: chip formation, drilling, grinding, milling, shaping, turning) cycles (see also: heat engines, isentropic processes, isothermal pro-cesses, isovolumetric processes, refrigeration, stirling cycles) cyclic loading cyclic testing cyclones cylindrical bodies (see also: shells (cylindrical)) cylindrical waves

D

damage (see also: injuries) damage (cumulative) damping damping capacity (see also: impact, vibration) dams (see also: arch dams, earth dams, embankments, spillways) darcy flow data acquisition data analysis (see also: automatic control, biological data processing, computing techniques) data processing (see: data analysis) decelerators (see also: bullets, drag, lift, parachutes) decision theory decking decoupling deep foundations defects deflagration (see also: detonation) deflections deformable bodies deformation deformation (antiplane) deformation (finite) deformation (plastic) delamination delay systems (see: time delay systems) delta wings density density currents deposition derivative control derivatives descent design (see also: fail safe design) design (earthquake resistant) (see: earthquake resistant structures) design (elastic) design (limit) (see: limit design) design (minimum weight) design (optimum) design criteria detached shock waves *detection determinants detonation (see also: deflagration, explosions, nuclear detonations) detonation (condensed phase) detonation (two phase)

detonative ignition developing flow diagnostics diaphragms dielectrics dies diesel engines difference differential equations (see also: functional equations) difference equations (see also: functional equations) differential equations (see also: decoupling) differential equations (ordinary) (see also: bessel functions, boundary value problems, eigenvalue prob-lems, functional equations, initial value problems, matrix methods, riccati equation) differential equations (partial) (see also: cauchy problem, dirichlet problem, elliptic equations, functional equations, hyperbolic equations, laplace equation, parabolic equations, special functions) differential games differentiation diffraction diffusers (see also: choked flow, inlets, nozzles, pressure recovery) diffusion (see also: molecular diffusion, thermal diffusion, transport phenomena) diffusion bonding diffusion coefficient diffusion pumps digital analog computation digital computation (see: computing techniques) digital control digital simulation dilatancy dilute solutions dimensional analysis (see also: scale effects) direct energy conversion direction dirichlet problem discharges disclinations (see also: screw dislocations) discontinuities discrete systems disks (see also: blades, rotating disks) dislocations (see also: creep, crystallography, crystals, edge dislocations, plasticity, screw dislocations) dispersed flow dispersion dispersion coefficient dispersion hardening dispersion relation *displacement (see also: in-plane displacement, large displacement) displacement gages dissipation distillation distributed parameters distributed systems divergence domes doppler effect

downwash (see also: upwash)

currents (see also: density currents,

eddy currents)

curvature

^{*}Term is a "forbidden term". It is used as a modifier, but not as an entry.

drag (see also: boundary layer, induced drag, lift) drag coefficient drag reduction (see also: additives) drainage drawing (see also: extrusion, forging, forming, rolling) drift waves drilling (see also: boreholes, wells) drives (see also: belts, chains, friction drives, gear trains, gears) drops (see also: rainfall, sprays) drying (see also: freezing) duct flow (see also: channel flow, closed conduit flow) ducted fans ductile fracture ductility (see also: strain hardening) ducts (see also: pipes) ducts (constant area) ducts (curved) ducts (variable area) dugdale model dust (see also: particles) dynamic analysis dynamic behavior dynamic contact dynamic effects dynamic fracture dynamic instability (see: dynamic stability) dynamic interaction dynamic loads dynamic plasticity dynamic programming dynamic properties dynamic response dynamic stability dynamic stresses dynamic testing dynamic viscoelasticity dynamics (see also: biodynamics, group theory, hamiltonian equations, impact, impulse, kinematics, nonconservative systems, particle dynamics)

E

ear (see also: cochlea) earth earth dams (see also: embankments) earth pressure earthquake effects earthquake engineering (see also: waves) earthquake resistant structures earthquakes (see also: seismology) eccentric loading echos eddies eddy currents eddy diffusivity eddy viscosity edge cracks edge dislocations edge effects effective elastic moduli eigenvalue problems (see also: bound-ary value problems) eigenvalues

ejectors ekman layer elastic behavior elastic bodies elastic constants (see also: effective elastic moduli) elastic foundations elastic waves elastica elasticity (see aiso: aeroelasticity, an-isotropic media, bending, bihar-monic equation, contact problems, continuum mechanics, dislocations, elasticity (three dimensional), electroelasticity, energy methods, hy-droelasticity, inelasticity, interference fits, magnetoelasticity, photoe-lasticity, photothermoelasticity, saint venants equation, strain energy, stresses, thermoelasticity, torsion) elasticity (linear) elasticity (nonhomogeneous) elasticity (nonlinear) elasticity (nonlocal) elasticity (three dimensional) elastodynamics (see also: dynamic reelastomers (see also: rubber) elastoplasticity elastoviscoplasticity electric effects electric propulsion electric resistance electric spark discharge (see also: machining (electrochemical))
electrical analogies electrical components electrical conductivity electrical instruments electrical machines electrical properties electro fluid dynamics (see also: energy conversion, magneto fluid dynamics) electro gas dynamics electro magneto fluid dynamics (see: electrochemical mass transfer electrochemical transport electroelasticity electromagnetic loading electromagnetic waves electromechanical components electron beam welding

electrochemical mass transfer
electrochemical transport
electrochemical transport
electromagnetic loading
electromagnetic loading
electromeselectromechanical components
electron beam welding
electron beams
electronics
electrostriction
ellipsoids
elliptic equations
elliptical bodies
elliptical cracks
embankments (see also: dams)
emissions (see also: acoustic emission)
empirical methods
emulsions
encyclopedias & handbooks
end effects
endochronic theory

endurance limit
energy (see also: geothermal energy,
thermonuclear energy)
energy conservation

energy conversion (see also: direct energy conversion, electro gas dynamics, magneto fluid dynamics, solar cells) energy density energy dissipation (see also: damping capacity) energy dissipators energy methods

energy spectrum
energy storage (see also: magneto fluid
dynamics)

energy theorems energy transport

engines (see also: diesel engines, free piston engines, gas engines, heat engines, internal combustion engines, jet engines, motors, spark ignition engines, wave engines)

enthalpy entrainment entrance region entropy environmental co

environmental control (see also: contamination)

environmental tests epoxy resins (see: resins)

*equations (see also: constitutive equations, difference differential equations, difference equations, differential equations, frunctional equations, integro differential equations, lagrange equations, linear equations, singular integral equations, vilaov equation, volterra equations.

equations)
equations of motion
equations of state
equilibrium
equipment
equivalence techniques

erosion *error (see also: random error)

estimation
estuaries (see also: rivers, streams)

euler equations evaporated films

evaporation (see also: mass transfer) evasion

evolution equations excavation excitation

exhaust gases (see also: emissions)

existence theorems exothermic reactions

expansion (see also: compression, contraction, sudden expansion, thermal expansion)

experimental mechanics (see also: holography, interferometry, optical techniques, photoelasticity, photoplasticity, photothermoelasticity, strain, strain gages, x ray techniques)

experimental methods
*experimental results
explorations
explosionquakes

explosion (see also: blast waves, deflagration, detonation, implosion, spherical waves, thermal explosions)

explosions (underwater) explosive forming explosive loading

^{*}Term is a "forbidden term". It is used as a modifier, but not as an entry.

F

fabrics (see: textiles) fading memory fail safe design failure (see also: cracks, fatigue, life expectancy) falkner-skan equation fans (see also: centrifugal fans, ducted fans) far field radiation fast fourier transform fasteners (see also: joining) fatigue (see also: corrosion fatigue. crack propagation, creep, endurance limit, fracture, fretting, high cycle fatigue, life expectancy, low cycle fatigue, multiaxial fatigue, thermal fatigue, wear, weibull statistics) faults feedback feedforward control feeding mechanisms ferrography ferrous metals (see also: iron, steel) fiber optics fibers (see also: glass fibers, graphite, textiles) field tests filament winding filamentary structures filaments (see also: whiskers) filaments (flexible) (see: flexible filaments) film boiling film cooling (see also: transpiration cooling) film flow film thickness films (see also: coatings, evaporated films, oil films, solid films, thin filters filtration finishing (see also: grinding, lapping) finite amplitude finite difference methods *finite element methods finite element methods (hybrid) finite element techniques (see also: boundary elements, mesh generation, substructuring) finite strain fins (see also: control surfaces, extended surfaces)

fire (see also: forest fires)

flames (see also: combustion)

fire control

fire spread

flame holders

flames (cool)

flame propagation

flames (diffusion) flames (laminar) flames (turbulent) flammability flanges flaps flaw detection flaws flexibility flexible bodies flexible filaments flexible walls flexural loading flexural waves flexure (see also: bending, torsion) flight flight (unsteady) flight control flight path (see also: orbits, trajectories) flight stability flight tests floating bodies floating structures floculation flood flow flood routing flood waves floods floors flotation *flow (see also: axial flow, axisymme-

tric flow, binary flow, blood flow, buoyant flow, capillary flow, cavitation flow, cellular flow, channel flow, chemically reactive flow, closed conduit flow, compressible flow, couette flow, critical flow, crossflow, duct flow, external flow, flood flow, frozen flow, helical flow, high speed flow, incompressible flow, inlet flow, internal flow, ionic flow, laminar flow, low density flow, mass flow, mixed flow, multicomponent flow, multifluid flow, multiphase flow, non newtonian flow, non steady flow, one dimensional flow, orr sommerfeld equation, particle fluid flow, particulate flow, peristaltic flow, pipe flow, piston driven flow, plane flow, plastic flow, radiating flow, rarefied flow, rheology, rotational flow, secondary flow, shear flow, slip flow, spray flow, stability curve, stratified flow, streamlines, surface flow, three dimensional flow, transition flow, transonic flow, two dimensional flow, two phase flow, unsteady flow, viscid inviscid flow, viscous flow) flow irregularities

flow measurement (see also: anemometers, laser doppler velocimeters, probes)
flow obstructions
flow reversal
flow stress
fluctuations
flue gases
fluid balance
fluid boundaries
fluid conveyance

fluid injection

fluid mechanics fluid power fluid-structure interaction fluidized beds (see also: packed beds) fluids (see also: pseudoplastic fluids, rheology, second order fluids, viscoelastic fluids) flutter (see also: galloping, oscillations, unsteady flow, vibration) flywheels foam focusing (see also: reflection) folds follower forces footings (see also: foundations) force forced convection (see: convection (forced)) forced systems forecasting forest fires forging (see also: drawing, extrusion, forming, rolling, upset forging, dies) forming (see also: blanking, drawing, dies, explosive forming, extrusion, forging, joining, rolling, stamping) foundations (see also: deep foundations, elastic foundations, footings, machine foundations, piers, piles, settlements, soil mechanics, winkler foundation) four bar linkage

four bar linkage fourier series fourier transform fractographic tests fractography fracture (see also

fracture (see also: brittle fracture, brittle materials, crack propagation, crazing, ductile fracture, dugdale model, dynamic fracture, fatigue, fracture angle, fracture control, fracture criteria, fracture mechanics, fracture toughness, mixed mode fracture, path integrals, stress corrosion, stress rupture)

fracture angle fracture control fracture criteria (see also: notch sensitivity) fracture mechanics fracture toughness framed structures frames (see also: arches, multistory

frames, portal frames, space frames)
fredholm equations
free boundary (see also: cavities, channel, flow, bodograph, methods

nel flow, hodograph methods, wakes) free convection (see: convection (free))

free jets free molecule flow (see: rarefied gases)

free piston engines

free shear layer (see also: cavities, jets, mixing layers, plumes, shear layer, wakes)

free surface (see: free boundary) freezing (see also: drying, thawing) frequencies

frequency domain techniques frequency response

fretting (see also: corrosion, fatigue, wear)

friction (see also: additives, damping capacity, traction) friction (rolling) friction (skin) friction (sliding) friction (solid fluid) friction (solid solid) friction drives friction factor frost (see also: permafrost, thawing) froude number frozen flow fuel cells fuel economy fuel elements fuel jets fuels (see also: coal, combustion, hybrid fuels, liquid fuels, nuclear fuels, petroleum, powdered fuels, propel-lants, solid fuels) functional analyis (see also: duality, vector methods) functional equations furnaces (see also: solar furnaces) fusion (see also: nuclear fusion) fuzzy control

G

gages (see also: displacement gages, strain gages, thermocouples, transducers) gait galactic system galerkin method galloping (see also: gait) gas dynamics (see: compressible flow) gas solid interface gas surface interaction gas turbines gas wells gases (see also: air, carbon dioxide, flue gases, helium, hydrogen, inert gases, ionized gases, methane, natural gas, rarefied gases) gasification gaskets gates (see also: valves) gear teeth gear trains (see also: drives) gears (see also: landing gears) gears (spur) gears (worm) generation generators geneva mechanisms geodetic satellites geomechanics (see also: deposition, faults, mantle) geometric acoustics geometric nonlinearities geometrical properties (see also: oblateness) geophysics (see also: turbulence (geophysical)) geostrophic flow geothermal energy geothermal reservoirs girders (see also: beams)

girders (curved)

girders (hybrid) girders (plate) glass glass fibers glued joints (see: bonded joints) gradient techniques graetz problem grafts (see also: skin) grain boundaries granular media (see also: particles, pneumatic transport, porous media) graph theory graphical methods graphite (see also: fibers) grashof number gravimetrics gravitational stabilization gravity gravity waves (see also: breakwater, hydraulic structures, nonlinear waves, roll waves, swell) gravity waves (breaking) gravity waves (cnoidal) gravity waves (finite depth) gravity waves (internal) gravity waves (shallow water) gravity waves (solitary) gravity waves (surface) grease green function grids (see also: screens) griffith cracks grinding (see also: abrasion, comminution, cutting, finishing) grinding wheels ground effect (see also: near ground effects) ground effect machines (see also: hydrofoils, stol, vtol) groundwater group theory group velocity guidance (see also: inertial guidance, navigation) guidance optimization guidance systems guidance theory guided missiles (see: missiles) gulf stream gust loads (see also: wind loads) gyrodynamics gyroscopes (see also: guidance systems, inertial guidance)

H

gyroscopes (rotary) gyroscopic stabilization

half space
hall effect
hamilton principle
hamiltonian equations
hanging structures (see: suspended
structures)
harbors
hardening (see also: cold working,
work hardening)
hardness
harmonic analysis
harmonic waves

head (see also: eyes, skull) hearing (see also: acoustics (physiological), ear) heart (see also: cardiovascular system) heat (see also: latent heat, specific heat) heat addition heat engines heat exchangers (see also: boilers, re-generators, tube bundles) heat exchangers (crossflow) (see also: counterflow) heat exchangers (multipass) heat of formation heat pipes heat pumps (see also: air conditioning, refrigeration) heat shields heat sources heat transfer (see also; ablation, aerodynamic heating, aerothermodyna-mics, boilers, boundary layer, combustion, conduction (heat), convection, cryogenics, drying, freezing, furnaces, heat pipes, liquid metals, mass transfer, melting, radiation, reynolds analogy, thermal diffusion, thermodynamics, thermoelasticity, thermophysical properties, turbines)
heat transfer (atmospheric)
heat transfer (biological) (see also: thermography)
heat transfer (combined modes) heat transfer (direct contact) heat treatment (see also: hardening, stress relieving) heaters heating (see also: air conditioning, refrigeration, ventilation) heaving helical flow helicopters (see also: hovering) helium helmholtz equation helmholtz resonator high cycle fatigue high lift devices high lift methods high pressure (see also. pressure ves-sels, thermodynamics, thermophysical properties) high pressure components high speed high speed flow high speed photography high strength high temperature high viscosity higher order theories highways (see also: bridges, runways) hilbert space hinged bodies hips (see also: musculoskeletal system) history hodograph methods (see also: characteristic methods) holography (see also: lasers) honeycomb structures hopkinson bar hoppers

hot wire

^{*}Term is a "forbidden term". It is used as a modifier, but not as an entry.

hovering hull propeller interaction human body human engineering (see also: biody-namics, biomechanics, man machine systems, sports medicine) hybrid fuels hybrid simulation hybrid systems hybrid techniques hydraulic jump hydraulic machinery hydraulic structures (see also: breakwater, bulkheads, conduits, dams, earth dams, gates, irrigation structures, pipes, spillways, tubes, valves, water tunnels, weirs) hydraulic transport (see also: sediment transport) hydraulic turbines hydraulics (see also: aquifers, buoyancy, canals, capillary flow, cavitation, channels, discharges, drainage, fluid power, free boundary, gates, hydraulic jump, hydraulic struc-tures, pipe flow, seepage, steps, streams, submerged bodies, valves, water hammer) hydrocarbons hydrodynamic pressure hydrodynamic stability (see also: taylor instability) hydrodynamics hydroelasticity hydroelectric power hydrofoils (see also: ground effect machines, stol, vtol) hydrogen hydrogen embrittlement hydrology (see also: meteorology, oceanography, seepage, snow, thermal plumes, wells) hydrostatics hygrothermal effects hyperbolic equations hypersonic flow hypervelocity hysteresis

ice ice mechanics icebergs identification (see also: observability) ignition (see also: catalyzed ignition, combustion, detonative ignition, self ignition, spark ignition) ignition sensitivity ill posed problems imaging systems immiscible fluids impact (see also: ballistics (terminal), explosive forming, shock waves) impact jets impedance impedance methods imperfection sensitivity imperfections

impingement (see also: icing) impingement cooling implants implosion impulse impulsive loading impulsive propulsion impulsive transfers in-plane displacement inclusions incompressible flow (see also: cavita-tion, hydraulics, hydrology, jets, multiphase flow, potential theory, rotational flow, turbulence, vortex flow, wakes) indentation induced drag inelasticity inequalities inert gases (see also: argon, helium, neon) *inertia inertial guidance inertial waves infiltration infinite medium inflammability (see: flammability) inflatable structures (see also: membranes (inflatable)) influence coefficients influence lines information theory (see also: probability theory) inhomogeneities initial stresses (see: residual stresses) initial value problems (see also: differential equations) initiation injection (see also: fluid injection) injectors injuries inlet flow inlets

inlets
inspection (see also: nondestructive tests)

instruments (see also: acoustical instruments, gages, mechanical instruments, optical instruments, thermocouples, transducers)
 insulating materials

insulating materials (thermal) insulation (see also: vibration isola-

tion)

integer programming

integral equations (see: fredholm equations, singular integral equations, volterra equations)

integral methods (see also: green function)

integral transforms (see: operational methods)

integration

integro differential equations

interception interface cracks

interface phenomena (see also: gas solid interface, liquid liquid interface, liquid solid interface, liquid vapor interface, solid solid interface) interface waves (see also: love waves,

rayleigh waves) interfaces

interfacial bonding (see: bonding)

interference (see also: aerodynamic interference) interference fits interferometry interlaminar stresses intermittency internal combustion engines internal flow internal friction (see: damping capacity) internal sources internal state variables internal stresses internal waves interplanetary probes interpolation invariant imbedding (see also: quasilinearization) inverse method inverse problems inversion (see also: matrix inversion) inviscid fluid ionic flow ionic propulsion ionization ionized gases iron irrigation irrigation structures

irrotational flow (see also: potential flow) isentropic processes islands isolation isoparametric elements isothermal processes isovolumetric processes *iteration iterative methods (see also: newton method, rayleigh ritz method)

izod tests (see: charpy tests)

J

j-integral jet engines (see also: combustors, ramjet engines, scramjets, thrust augmenters, turbofan engines, turbojet engines, turboprop engines)

engines, turbop jet flaps jet propulsion jet pumps jet streams

jets (see also: arcjets, coaxial jets, confined jets, free jets, fuel jets, impact jets, nozzles, plasma jets, pulsejets, ramjets, scramjets, surface jets, turbojet engines, wall jets)

joining (see also: adhesives, bonding, fasteners, welding)

joints (see also: biological joints, bolted joints, bonded joints, brazed joints, glued joints, hips, mechanical joints, pinned joints, riveted joints, screwed joints, threaded joints, welded joints)

welded joints)
joule effect
joule thomson effect
journal bearings (see: bearings (journal))
jump conditions
junctions

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K

kalman filters kelvin waves kelvin-helmholtz instability kepler orbits keys kidneys kilns (see: furnaces) kinematics (see also: biomechanics, dynamics, locomotion, mechanisms) kinetic theory (see also: rarefied gases, statistical mechanics, vlasov equation) kinetics (see also: chemical kinetics) knees knocking korteweg de vries equation lagrange equations lagrange multiplier lamb problem laminar flames (see: flames (laminar)) laminar flow (see also: capillary flow) laminar mixing laminates (see also: delamination, interlaminar stresses, sandwich construction) landing (see also: descent, takeoff) landing gears landslides.(see also: soil mechanics) laplace equation laplace transform lapping (see: grinding) large displacement large scale systems laser doppler velocimeters laser plasma interaction laser welding lasers (see also: holography) lasers (gasdynamic) latent heat lateral pressure lateral stability lattices launching layered media lead leading edge leaks least squares leidenfrost phenomenon libration theory life expectancy (see also: failure) life support systems lift (see also: drag, high lift devices, uplift) lift coefficient lifting bodies lifting surfaces lighthill acoustic analogy limit analysis limit design linear equations linear programming (see also: dynamic programming) linear systems linear theory *linearization liners

linkages

liquefaction

liquid crystals (cholesteric)

liquid fuels liquid gas mixture liquid liquid interface liquid metals liquid solid interface liquid surface waves (see: gravity waves) liquid vapor interface liquid vapor mixture liquids loads (see also: acoustic loading, aerodynamic loads, axial loading, axisymmetric loading, biaxial loading, combined loading, cyclic loading, dynamic loads, eccentric loading, electromagnetic loading, explosive loading, flexural loading, gust loads, impulsive loading, moving loads, overloads, radial loading, random loading, repeated loading, seismic loading, seismology, shear loading, spectral loading, stresses, thermal loading, transient loading, triaxial loading, unloading, variable loading, wind loads) locomotion locomotives (see also: railroads, trains (railroad)) longitudinal stability losses love waves low cycle fatigue low gravity low temperature low temperature properties (see also: cryogenics) low thrust transfer lubricants (see also: grease) lubricants (gas) lubricants (liquid) (see also: synovial fluids) lubricants (solid) lubrication (see also: bearings, friction, gears, squeeze films, wear) lubrication (boundary) lubrication (dry film) lubrication (elastohydrodynamic) lubrication (hydrodynamic) lubrication (hydrostatic) lubrication (solid) lumped systems lunar missions lunar theory lungs lyapunov's functions

M

machinability
machine design (see also: belts, cams,
chains, clutches, couplings, crankshafts, gears, keys, kinematics, linkages, screws, seals, splines, springs)
machine elements
machine foundations
machine tools (see: tools)
machinery
machining (see: cutting, drilling, grinding, milling, scoring, shaping, turning)
machining (electrochemical) (see also:
electric spark discharge)

macroscopic characterization magnesium alloys magnetic field magnetic fluids magnetic stabilization magneto fluid dynamics (see also: arcs, conducting fluid, energy conversion, ionic propulsion) magneto hydro dynamics (see: magneto fluid dynamics) magneto plasma dynamics magnetoelastic waves magnetoelasticity magnetostriction man machine systems (see also: biocontrol, human engineering) maneuverability (see also: ship maneuvers) manifolds manipulators (see also: robotics) mantle maraging steel marine engineering (see also: hydroelasticity, hulls, hydrofoils, propellers, rudders, shafts, ship structures, ships, submerged bodies) markov processes masonry (see also: concrete) mass flow mass transfer (see also: ablation, condensation, diffusion, drying, electrochemical mass transfer, evaporation, film cooling, freezing, heat transfer, melting, mixing) mass transportation material nonlinearities material testing (see also: charpy tests)
materials (see also: brittle materials) materials possessing memory (see also: thixotropic media) materials processing materials properties (see also: fracture toughness, hardness, necking, poisson's ratio, tensile strength) mathematical methods mathematical models mathematical programming (see also: automatic control, dynamic programming, linear programming, nonlinear programming) *mathematical theory matrices matrices (sparse) matrix inversion matrix methods (see also: linear programming, nonlinear programming, tensor methods, vector methods) maximum principle *measurements measurements (dynamic) mechanical analysis mechanical design mechanical instruments mechanical joints mechanical properties mechanical stabilization mechanical systems mechanics mechanisms (see also: feeding mechanisms, geneva mechanisms, manip-

ulators)

mechanisms (planes)

mechanisms (spatial)

melting (see also: thawing)

^{*}Term is a "forbidden term". It is used as a modifier, but not as an entry.

membrane theory membranes membranes (inflatable) membranes (permeable) meniscus mesh generation metallic composites metallography metallurgy (see also: powder metallurgy) metals meteorology (see also: astrophysics, atmosphere, baroclinic instability, baroclinic waves, climatology, ekman layer, ground effect, hydrology, icing, oceanography, rossby waves, tides, weather forecasting, wind generation) meteorology (physical) meteorology (synoptic) methane microcirculation microcracks micromechanics micromechanisms micropolar media (see also: polar fluids) microprocessors microstructures milling mindlin plates mines minimax techniques minimization minimum fuel control minimum weight design (see: design (minimum weight)) mining (see also: excavation, oil shale) misalignment missiles (see also: afterbodies, rockets, space vehicles) mission analysis mixed flow mixed flow turbines mixed mode fracture mixing (see also: laminar mixing, mass transfer, turbulent mixing) mixing layers mixing length theory mixture theories mixtures mobility modal analysis modal control model reduction model reference systems models (see also: mathematical models, scale effects, scale models) modes modulated systems moire methods moisture (see also: hygrothermal effects) molding (see: casting) molecular diffusion molecular theory moment coefficient moment distribution monitoring monte carlo analysis mooring

*motion

motors (see also: engines)

moving loads
moving media
moving surfaces
multiaxial fatigue
multicomponent flow (see also: two
component flow)
multifluid flow
multiplayer
multiphase flow (see also: slug flow,
slurries, two phase flow)
multiplase media
multiple cracks
multiple degree of freedom
multiple scales
multivariable systems
musculoskeletal system (see also: tendons)

N

n body problems (see also: three body problem, two body problem) natural gas natural satellites (see: satellites) naval architecture (see: marine engineering) navier stokes equation navigation (see also: guidance) near ground effects necking neon nervous system (see also: brain) networks neural nets newton method nickel alloys noise (see also: acoustics, hearing, sound) noise (aerodynamic) noise (random) noise (traffic) noise abatement (see also: liners) noise control (see: noise abatement) noise measurements nomograms non newtonian flow (see also: power law fluids) non newtonian suspensions non steady flow (see: unsteady flow) noncircular pipes nonconservative systems nondestructive tests (see also: acoustic emission, flaw detection, ultrasonics, x ray techniques) nonequilibrium effects nonequilibrium flow nonequilibrium thermodynamics (see: thermodynamics (nonequilibrium)) nonhomogeneous media (see also: anisotropic media) nonhomogeneous soils nonlinear analysis nonlinear characteristics nonlinear materials nonlinear mechanics nonlinear methods nonlinear programming nonlinear structures nonlinear systems nonlinear theory

*nonlinearities (see also: geometric nonlinearities, material nonlinearities) nonmetals nonuniform flow normal stress (see: stresses (normal)) notch sensitivity notch tests (see also: charpy tests, fracture) nozzles (see also: diffusers) nuclear detonations nuclear fuels nuclear fusion nuclear power nuclear radiation nuclear reactors (see also: blowdown, fuel elements) nucleate boiling nucleation *numerical analysis (see also: difference equations) numerical control numerical methods (see also: inverse

nonlinear waves (see also: gravity

0

method, iterative methods, runge

kutta method)

nusselt number

oblateness observability observers ocean ocean air interaction ocean bed ocean waves oceanography (see also: currents, gravity waves, hydrology, islands, meteorology, rossby waves, seismology, tides) offshore structures ogives oil films oil removal oil shale oil wells one dimensional flow one dimensional waves open loop systems operational methods (see also: differential equations) optical analysis optical instruments optical techniques (see also: caustics, holography, photoelasticity, photoplasticity) optimal control (see also: bang-bang control, riccati equation) optimization (see also: design (minimum weight), minimization, penalty function, structural optimization) orbit correction orbit decay orbit determination orbit mechanics (see also: interplanetary probes, low thrust transfer, lunar missions, reentry, satellites, space vehicles, windows) orbit stability

orbit transfer

^{*}Term is a "forbidden term". It is used as a modifier, but not as an entry.

orbits (see also: periodic orbits, trajectories)
organs (see also: blood vessels, tissues)
orifices
orr sommerfeld equation
orthogonal functions
orthotropic materials
oscillating bodies
oscillating bodies
oscillations (see also: flutter, unsteady
flow, vibration, waves)
oscillators
oscillators
oscillatory flow
overloads
oxidation
oxygen

P

packed beds(see also: fluidized beds) pade approximation panels(see also: plates) panels (curved) panels (flat) panels (stiffened) parabolic equations parachutes(see also: decelerators) parallel plates(see: plates (parallel))
partial differential equations(see: differential equations (partial)) particle dynamics particle fluid flow particle size particles(see also: charged particles, drops, dust, granular media, sprays) particulate flow particulate reinforcements(see: composite materials) path integrals pattern recognition pavements(see: highways, runways) peclet number penalty function pendulums penetration(see also: impact) penny shaped crack percolation(see: filtration) performance periodic orbits peristaltic flow(see also: pulsatile flow) permafrost(see also: frost) permeability permeable membranes(see: membranes (permeable)) perturbation methods perturbation theory perturbations(see also: singular perturbations, special perturbations) petroleum petroleum deposits phase changes phase velocity photoelasticity photoelasticity (dynamic) photoelasticity (three dimensional) photography photoplasticity photothermoelasticity physical properties physical theory piercing

piezoelectrics piles piling pinned joints pipe flow(see also: peristaltic flow, slug flow) pipelines pipes(see also: ducts, heat pipes, noncircular pipes, pressure vessels, pressurized pipes, tubes) piping systems(see also: pipelines) piston driven flow piston rings pitching(see also: rolling, yawing) pitot tube plane flow plane strain plane stress plane surfaces plane waves planetary atmospheres planetary entry planetary satellites planetary theory planing surfaces(see also: hydrofoils) plasma(see also: arcs, energy conversion, magneto fluid dynamics) plasma (blood)(see: blood) plasma (toroidal) plasma jets plasma propulsion plastic behavior plastic flow plastic waves plasticity(see also: buckling (plastic), creep, deformation (plastic), dislocations, drawing, ductility, elasto-plasticity, energy methods, extrusion, indentation, inelasticity, limit design, photoplasticity, rolling, shells (plastic), strain hardening, stresses, superplastics, thermoplas-ticity, torsion (plastic), viscoelasticity, viscoplasticity) plastics(see also: polymers) plates(see also: disks, panels, sandwich construction, shells) plates (anisotropic) plates (annular) plates (circular) plates (folded) plates (holed) plates (isotropic) plates (nonhomogeneous) plates (nonlinear) plates (orthotropic) plates (parallel) plates (perforated) plates (rectangular) plates (reinforced) plates (sandwich) plates (simply supported) plates (skew) plates (stiffened) plates (thick) plates (vertical) plates (weakened) plates (welded) plumes(see also: thermal plumes) pneumatic components pneumatic transport pneumatic vehicles poiseuille flow

piezoelectric devices

poisson equation poisson's ratio polar fluids pole placement pollution(see also: air pollution, water pollution)
polycrystalline materials polymers(see also: cements, plastics) pool boiling pore pressure porous media(see also: boussinesq equation, filtration, fluidized beds, granular media, infiltration, oil shale, permeability, seepage, soil mechanics, void fraction) porous surfaces porous walls portal frames position control positive displacement machines positive displacement pumps postbuckling behavior potential flow(see also: irrotational flow) potential theory powder metallurgy powdered fuels powders power generation power law fluids power plants(see also: fluid power, hydroelectric power, nuclear reactors, steam gas power plants, steam power plants) prandtl number prebuckling behavior precast concrete precipitation(see also: hydrology, rainfall, snow) *prediction preflame reactions premixed fuel air pressure(see also: hydrodynamic pressure, lateral pressure) pressure change pressure distribution pressure drop pressure gradient pressure measurement(see also: flow measurement, piezoelectrics, pres-ton tubes, transducers) pressure recovery pressure vessels(see also: boilers, composite pressure vessels, high pressure, nozzles, pipes, tube sheets, tubes) pressure waves(see: compressional waves) pressurized components pressurized pipes preston tubes prestressed concrete prestressed structures(see also: beams (prestressed)) probabilistic design probability probability theory(see also: failure) probability theory (hit) probes(see: fiber optics) process control processes processing(see also: data processing)

^{*}Term is a "forbidden term". It is used as a modifier, but not as an entry.

programming(see also: computer programming, dynamic programming, linear programming, mathematical programming, nonlinear programming, quadratic programming) projectiles(see also: missiles, penetration) propagation propagation velocity propellants(see also: combustion, fuels, hydrocarbons, ignition, propulsion, solid propellants) propellers(see also: rotors) propellers (ducted) propellers (marine) properties(see also: electrical properties, mechanical properties, physical properties, thermal properties) propulsion(see also: biopropulsion, continuous burn propulsion, electric propulsion, impulsive propulsion, ionic propulsion, jet propulsion, plasma propulsion, swimming propulsion) prosthetic devices protective coatings(see: coatings) pseudoplastic fluids pulmonary system(see: lungs) pulsatile flow(see also: peristaltic flow) pumps(see also: axial pumps, centrifugal pumps, diffusion pumps, ejectors, jet pumps, positive displacement pumps) punch problems(see also: piercing) pursuit pyrolysis

Q

quadratic programming quasilinearization(see also: invariant imbedding) quenching queue theory

R

radial compressors radial loading radial turbines radiant interchange radiating flow radiation(see also: nuclear radiation) radiation properties radiators radioactivity radiography(see also: x ray techniques) railroads(see also: locomotives, trains (railroad)) raindrops(see: drops) rainfall ramjet engines ramjets random error random excitation random loading random media

random processes(see: stochastic processes) random search rarefied flow rarefied gases rate sensitivity rational mechanics(see: continuum mechanics) rayleigh benard instability rayleigh method rayleigh number rayleigh ritz method rayleigh taylor instability rayleigh waves reaction kinetics reaction rates reactor structures reactors(see also: chemical reactors, heat exchangers, nuclear reactors, pressure vessels) real time solution reattachment recirculation recovery systems recuperators reduction redundant structures(see: statically indeterminate structures) reentry(see also: orbit mechanics) reflection(see also: focusing, interface phenomena, refraction) refraction(see also: interface phenomena, reflection) refractories(see also: furnaces) refrigeration(see also: air conditioning, cooling, freezing, heat pumps) regenerators regression rate regularization regulator problem reinforced bodies reinforced concrete(see also: arches, beams, columns, foundations, masonry, plates, shells, stresses, structures) reinforced openings relaminarization relativity relaxation relaxation methods relaxing media relay systems reliability(see also: endurance limit, life expectancy) reliability analysis reliability design remote control renal system(see: kidneys) repeated loading reservoir engineering(see also: filtration, geophysics, porous media, seepage, wells) reservoirs residual strength residual stresses resistance(see also: electric resistance) resonance(see also: helmholtz resonator) respiratory system(see also: lungs) *response restricted three body problem retaining walls return flow

reverberation rewetting revnolds analogy reynolds equation reynolds equation (lubrication) revnolds number reynolds number (critical) reynolds number (high) reynolds number (small)(see also: creeping flow, subcritical flow) reynolds stresses rheology(see also: continuum mechanics, flow stress, magnetic fluids, non newtonian flow, plasticity, second order fluids, slug flow, stresses (normal), surfactants, viscoelasticity, viscoplasticity) riccati equation richardson number ricochet rigid bodies rings(see also: arches) river beds rivers(see also: estuaries, streams) riveted joints road beds(see: highways) robotics(see also: manipulators) rock mechanics(see also: seismology, soil mechanics) rockets(see also: fuels, meteorology, missiles, propulsion, satellites, space vehicles, variable mass, thrust) rocks rods roll waves roller bearings (see: bearings (roller)) rolling(see also: drawing, extrusion, forging, forming) rolling contact rolling motion(see also: pitching, yawing) roofs ropes rossby waves rotary inertia rotating bodies rotating cylinders rotating disks rotating flow(see: rotational flow) rotating fluids rotating shafts rotating stall rotational flow(see also: axial flow, swirl flow, vortex flow) rotors(see also: windmills) roughness rubber(see also: elastomers) rubber elasticity rudders runge kutta method runoff runways(see also: highways) rupture(see also: creep rupture, stress rupture)

S

safety saint venant principle saint venants equation sampled data systems

^{*}Term is a "forbidden term". It is used as a modifier, but not as an entry.

sampling	sheet metal	slip flow
sand	sheet stringer panels(see: plates (stiff-	slip line methods(see also: characteris-
sandwich construction(see also: beams	ened))	tic methods)
(sandwich), plates (sandwich), shells	shells(see also: pipes, tubes)	slopes
(sandwich))	shells (anisotropic)	sloping bottom
satellites(see also: artificial satellites,	shells (axisymmetric)	sloshing(see also: solids with liquids)
celestial mechanics, communication	shells (conical)	slots
satellites, geodetic satellites, inter-	shells (cylindrical)	slug flow
planetary probes, natural satellites,	shells (ellipsoidal)	slurries
planetary satellites, orbit mechanics,	shells (fluid-filled)	smoke stacks
spinning bodies)	shells (helical)	smoothing of data
saturation	shells (hyperbolic)	snap-through .
scale effects(see also: scale models)	shells (hyperbolic paraboloid)	snow
scale models	shells (long)	soft layers
scattered light	shells (nonlinear)	soil conservation
scattering	shells (of revolution)	soil consolidation
schlieren methods scoring	shells (orthotropic)	soil mechanics(see also: bearing capac-
	shells (plastic)	ity, clay, dams, deposition, excava-
scour	shells (sandwich)	tion, foundations, highways, hydro-
scramjets	shells (shallow)	logy, permafrost, pore pressure,
screens(see also: grids)	shells (spherical)	sand, sedimentation, seepage, soil
screw dislocations(see also: disclina-	shells (stiffened)	consolidation, thawing, tunnels)
tions)	shells (thick)	soil stability
screwed joints	shells (thin)	soil structure interaction
screws(see also: bolts)	shells (toroidal)	soils(see also: nonhomogeneous soils)
sea(see: ocean)	shells (viscoelastic)	solar cells
seals second order analysis	ship design ship dynamics	solar collectors
second order analysis second order fluids		solar energy
	ship hulls(see: hulls)	solar furnaces
secondary flow	ship maneuvers(see also: steering)	solar ponds
sediment transport(see also: channel flow, pipe flow, scour, silting)	ship motion ship performance	solar pressure
sedimentation	ship resistance	solar radiation
seepage(see also: hydraulic transport,	ship structures	solar system
wells)	ship towing	solar wind
seismic loading	ship waves(see: wavemaking resis-	solid boundaries
seismic toading	tance)	solid films
seismicity	ships(see also: pitching, rolling, yaw-	solid fuels
seismology(see also: earthquakes,	ing)	solid mechanics
folds, geophysics)	shock(see also: impact, thermal shock,	solid propellants
self excitation	vibration)	solid solid interface
self ignition	shock absorbers	solid-fluid interaction(see also: fluid-
semi infinite media	shock layer	structure interaction)
semiconductors(see also: oscillators)	shock tubes	solidification
sensitivity	shock tubes (electromagnetic)	*solids
separated flow(see also: strouhal num-	shock waves	solids with liquids
ber)	shock waves (normal)	solitary waves
separation(see also: reattachment)	shock waves (oblique)	solutions (material)(see also: dilute so-
series(see also: fourier series)	shrinkage	lutions)
series expansion	silencers	sonic booms
servomechanisms	silos	soot
settlements	silting	soot formation
settling tanks	similarity methods	sound(see also: acoustics, aerother-
sewerage	similitude(see: dimensional analysis)	moacoustics, hearing, impedance,
sh waves	simply supported structures(see also:	interface phenomena, noise, sonic
shafts(see also: crankshafts, whirling	plates (simply supported))	booms, turbulence, ultrasonics)
shafts)	simulation(see also: analog simulation,	sound (random)(see also: noise)
shakedown structures	computing techniques, digital simu-	sound fields
shallow water	lation, hybrid simulation)	sound flow interaction
*shape	singular control	sound generation
shape factors	singular integral equations	sound propagation
shaping	singular perturbations	sound speed
shear	singular waves	sounding
shear bands	singularities	*space
shear flow	skeletal system(see: musculoskeletal	space conditioning(see: air condition-
shear lag	system)	ing)
shear layer(see also: boundary layer,	skew	space frames
free shear layer, jets, preston tubes,	skin	space shuttle
wakes)	skin friction(see: friction (skin))	space vehicle structures
shear loading	skull(see also: head)	space vehicles(see also: interplanetary
shear strength	slabs	probes)
shear stress	slender bodies	spacecraft(see: space vehicles)
shear walls	slender wings	spallation(see also: delamination, frac-
shear waves	sliding	ture)

^{*}Term is a "forbidden term". It is used as a modifier, but not as an entry.

spark discharge(see also: electric spark discharge) spark ignition engines special functions(see also: bessel functions) special perturbations specific heat spectra spectral analysis(see also: spectroscopy) spectral density spectral loading spectroscopy(see also: spectral analyspeed of sound(see: sound speed) spherical bodies(see also: shells (spherical)) spherical waves spikes spillways(see also: dams) spin recovery spinning(see: spin recovery) spinning bodies splines spoilers sports medicine spot welding spray flow SDEAVS springs spur gears(see: gears) squeeze films *stability(see also: combustion instability, dynamic stability, hydrody-namic stability, kelvin-helmholtz instability, lateral stability, longitudistability, nonconservative systems) stability (control)(see: control stability) stability (numerical) stability curve stability derivatives stability theory(see also: control stability) stabilization(see also: combustion, gravitational stabilization, magnetic stabilization, mechanical stabilization) stagnation point stalling(see also: rotating stall) stamping standing waves state space techniques statically indeterminate structures statistical continuum mechanics statistical control statistical design statistical mechanics(see also: group theory, kinetic theory) statistical theory(see also: data analysis, information theory, reliability, statistical control, statistical design, stochastic processes) steam steam gas power plants steam generators(see: boilers) steam power plants steam turbines

steel(see also: maraging steel)

steering

stefan problem

steps stiffened structures(see also: panels (stiffened), plates (stiffened), shells (stiffened)) stiffness stiffness matrix stilling basins stirling cycles stochastic control(see also: kalman filstochastic processes(see also: markov processes, statistical control) stochastic systems stochastics stokes flow stol(see also: ground effect machines, hydrofoils, vtol) storage strain(see also: finite strain, plane strain, stresses) strain analysis strain energy strain gages strain hardening(see: work hardening) strain measurement strain rate strain softening strakes stratification stratified flow stratified waves stream function streamlines streams(see also: jet streams, rivers) strength(see also: high strength, ultimate strength) stress analysis stress concentration stress corrosion stress intensity factor stress relaxation stress relieving(see also: heat treatment) stress rupture stress strain relationships stresses(see also: contact stresses, couple stresses, dynamic stresses, experimental mechanics, high temperature, holography, internal stresses, low temperature properties, photoelasticity, photoplasticity, residual stresses, shear stress, strain, thermal stresses, thermoelasticity, thermoplasticity, traction) stresses (local) stresses (normal) stretching strings(see also: cables) strips strouhal number structural analysis structural design structural elements structural materials structural optimization structural response(see also: sway) structural stability(see also: snapthrough) structural support structure structures(see also: airplane structures. arches, bridges, cable supported structures, composite structures,

stenoses

concrete, cranes, culverts, dams. earthquake resistant structures, fail safe design, filamentary structures, flexibility, floating structures, foundations, framed structures, frames, highways, honeycomb structures, hydraulic structures, inflatable structures, irrigation structures, joints, limit design, loads, nonlinear structures, offshore structures, piping systems, plates, prestressed concrete, prestressed structures, reactor structures, reinforced concrete, sandwich construction, seismology, shakedown structures, ship structures, simply supported structures, space vehicle structures, statically indeterminate structures, stiffened structures, tanks, thin walled struc-tures, towers, trusses, tunnels, walled structures, walls, wood structures) struts(see also: columns) subcritical flow subgrade design sublayers sublimation(see also: ablation, latent heat) submarine submerged bodies(see also: hydraulics) suboptimal control subsidence(see also: soil consolidation) subsonic flow substructuring(see also: finite element techniques) suction sudden expansion superchargers supercritical flow superfluids superplastics supersonic flow suppression surf(see also: breakers) surface barrier surface coatings(see: coatings) surface effect surface flaws surface flow surface jets surface profiles surface tension(see also: contact angle) surface waves(see also: gravity waves (surface), rayleigh waves) *surfaces(see also: curved surfaces, extended surfaces, moving surfaces, plane surfaces, planing surfaces, porous surfaces) surfactants surge surge tanks *survey surveys suspended structures suspension bridges(see: bridges (suspension)) suspension systems suspensions(see also: aerosols, centrifugation, coagulation, colloids, dis-persion, floculation, flotation, non newtonian suspensions, sediment transport, sedimentation) sway

^{*}Term is a "forbidden term". It is used as a modifier, but not as an entry.

swept wings swimming propulsion swirl(see also: cellular motions) switching synovial fluids synthesis systems systems engineering

takeoff(see also: landing) tanks(see also: containers, surge tanks) taylor instability taylor number taylor vortices tectonics(see also: folds) temperature(see also: flames, heat, heat transfer, high temperature, low temperature, thermocouples) tendons tensile strength tension(see also: stretching) tensor methods testing equipment *tests(see also: charpy tests, cyclic testing, dynamic testing, environmental tests, field tests, flight tests, fractographic tests, nondestructive tests, notch tests, triaxial tests) textiles(see also: fibers) texture thawing(see also: freezing, melting) *theory thermal buckling(see: buckling (thermal)) thermal conductivity(see: conductivity) thermal contact resistance thermal diffusion thermal effects thermal excitation thermal expansion thermal explosions thermal fatigue thermal instability thermal loading thermal measurements(see also: thermography) thermal plumes thermal properties thermal sciences thermal shock thermal stresses thermal waves thermocline thermocouples

thermodynamic functions thermodynamic processes(see also: adiabatic processes, closed cycle, heat of formation, isentropic processes, isothermal processes, isovolumetric processes) thermodynamic properties thermodynamics (see also: absorption, adsorption, aerothermodynamics, air conditioning, boilers, boiling, calorimeters, chemical thermodynamics, combustion, compressors, cycles, diffusion, energy conversion, engines, entropy, flames, freezing,

heat engines, heat transfer, internal state variables, joule effect, joule thomson effect, kinetic theory, phase changes, power plants, refrig-eration, thermophysical properties, turbines, vortex tubes) thermodynamics (irreversible) thermodynamics (nonequilibrium) thermodynamics (statistical) thermoelasticity (see also: photothermoelasticity, thermal waves) thermoelasticity (nonlinear) thermoelasticity (steady) thermoelasticity (transient) thermoelectric phenomena (see also: thermocouples) thermography thermomagnetic phenomena thermonuclear energy thermophysical properties (see also: latent heat) thermoplasticity thermosyphons thermoviscoelasticity thin films thin walled structures thixotropic media thorax threaded joints three body problem three dimensional elasticity (see: elasticity (three dimensional)) three dimensional flow (see also: axial flow) *three dimensional formulation thrust (see also: propulsion) thrust augmenters thrust bearings (see: bearings (thrust)) thrusters tides time delay systems time dependence time domain techniques time invariant systems time lag time optimal systems time varying systems tires tissues (see also: collagen, organs, skin) titanium tokamak tollmien schlichting waves tool wear tools topological techniques tornados toroids *torque torque converters torsion (see also: flexure) torsion (plastic) torsion (viscoelastic) torsional waves toughness (see also: fracture, fracture toughness) towed body dynamics (see also: ship towing) towers (see also: chimneys, cooling towers)

traction traffic noise (see: noise (traffic)) trailing edge trains (railroad) trajectories (see also: orbits) trajectory optimization transducers (see also: accelerometers, piezoelectrics, gages, piezoelectrics, couples) transducers (displacement) gages, transducers (load) transducers (pressure) transducers (ultrasonic) transfer functions transformation (see also: regularization) transforms (see also: laplace transform) *transient transient effects transient loading transition (see also: reynolds number (critical), tollmien schlichting waves) transition (reverse) transition boiling transition elements transition flow transmission transmissions transmissions (planetary) transonic flow (see also: subcritical flow) transpiration transpiration cooling (see also: film cooling) transport transport mechanisms transport phenomena (see also: diffusion) transport properties transportation (see: transport) travelling waves triangular elements triaxial loading triaxial tests tribology (see also: friction, lubrication, wear) trucks trusses (see also: frames) tsunami tube bundles tube sheets tubes (see also: pipes) tunneling tunnels (see also: water tunnels, wind tunnels) turbines (see also: axial turbines, cen-trifugal turbines, compressors, gas turbines, hydraulic turbines, mixed flow turbines, radial turbines, steam turbines, turbomachinery) turbofan engines turbojet engines turbomachinery (see also: actuator theory, cascades, compressors, fans, pumps) turboprop engines turbulence (see also: boundary layer, closure, coherent structure, eddies, heat transfer, mass transfer, meteorology, mixing, reynolds stresses, shear layer, turbulent flow, wakes) turbulence (anisotropic) turbulence (freestream)

towing cables

towing tanks

tracking

tracer photography

^{*}Term is a "forbidden term". It is used as a modifier, but not as an entry.

U

ultimate strength ultrasonic welding ultrasonics (see also: nondestructive tests, transducers) underground underwater acoustics underwater structures uniqueness unloading *unsteady effects unsteady flow (see also: nonuniform flow, oscillations, oscillatory flow) unsteady state uplift upper atmosphere upset forging upwash (see also: downwash)

V

vacuum valves (see also: gates) vapor pressure vaporization (see also: evaporation, latent heat, mass transfer) variable area flow variable fluid properties variable geometry variable loading variable mass variable properties (material) variable section variable thermal properties variational methods (see also: hamilton principle) vector methods (see also: banach space, hilbert space, matrix methods, tensor methods) vegetation vehicles (see also: airplanes, automobiles, ground effect machines, locomotives, marine engineering, near ground effects, pneumatic vehicles, railroads, ships, space vehicles, submarine, suspension systems, trains

(railroad), trucks)

velocimeters (see also: laser doppler velocimeters) velocity measurement velocity profiles ventilation (see also: air conditioning, cooling, heating) vessels vibration (see also: acoustics, automatic control, damping capacity, discrete systems, distributed systems, flutter, impact, impedance, modal analysis, noise, oscillations, shock waves, virtual mass, waves) vibration (almost periodic) vibration (electromechanical) vibration (flow induced) vibration (forced) vibration (free) vibration (nonlinear) vibration (parametric) vibration (random) vibration (self excited) vibration (thermally excited) vibration (torsional) vibration (viscoelastic) vibration isolation virtual mass virtual work methods viscid inviscid flow viscoelastic fluids viscoelastic materials viscoelastic waves viscoelasticity (see also: continuum mechanics, creep, dislocations, ice mechanics, indentation, vibration (viscoelastic), viscoplasticity) viscoelasticity (dynamic) viscoelastoplasticity (see: elastoviscoplasticity) viscometry viscoplastic waves viscoplasticity (see also: inelasticity) viscosity (see also: high viscosity, preston tubes, thermophysical properties, viscous effects) viscous effects viscous flow (see also: high viscosity) vision (see: eyes) visualization vlasov equation void fraction void growth volcanology volterra equations volumetric meters vortex flow vortex lines vortex rings vortex shedding vortex sheets vortex tubes vortices vorticity vtol (see also: ground effect machines, hydrofoils, stol)

W

wakes walking (see: gait) wall jets walled structures walls (see also: flexible walls, porous walls, retaining walls, wavy walls) warping (see also: buckling) water (see also: groundwater, shallow water) water conservation water hammer water pollution water tunnels water waves (see: gravity waves) watersheds wave absorbers wave energy wave engines wave equations wave generation wave height wave interactions wave loads wave trains waveguides waveguides wavemakers wavemaking resistance waves (see also: acoustic waves, baroclinic waves, blast waves, capillary waves, compressional waves, cylindrical waves, drift waves, elastic waves, flexural waves, flood waves, impact, interface phenomena, interface waves, inertial waves, lamb problem, love waves, magnetoelastic waves, modal analysis, ocean waves, one dimensional waves, oscillations, plane waves, plastic waves, rayleigh waves, roll waves, seismic waves, seismology, shear waves, shock waves, singular waves, solitary waves, standing waves, stratified waves, surface waves, thermal waves, tollmien schlichting waves, two dimensional waves, vibration, viscoelastic waves. viscoplastic waves) wavy walls wear (see also: abrasion, bearings, cavitation, erosion, fretting, friction, lubrication, tool wear) weather forecasting (see also: meteorology) web openings (see also: beams (open section)) wedges weibull statistics weighted residual methods weirs welded joints welded structures welding (see also: arc welding, butt welding, electron beam welding, heat treatment, joining, joints, laser welding, ultrasonic welding) wells (see also: drilling, gas wells, oil wells) wheels (see also: kinematics) whirling shafts whiskers

> wick wind

wind generation

wind power

wind pressure

wind loads (see also: gust loads)

^{*}Term is a "forbidden term". It is used as a modifier, but not as an entry.

wind tunnels (see also: cryogenics, shock tubes)
wind tunnels (environmental)
wind turbines
wind-wave interaction
winding (see also: filament winding)
windmills (see: wind turbines)
windows
wing body combinations
wing tail interference
wings (see also: aerodynamic interference, airfoils, delta wings, flutter, leading edge, oscillations, slender
wings, slots, stalling, swept wings, trailing edge, vortex shedding)
winkler foundation

wires (see also: whiskers)
wirewound vessels (see also: filament
winding)
wood
wood structures
work hardening (see also: cold working)
winkling

yarn (see also: fibers) yawing (see also: pitching, rolling) yield condition yield criteria

Z

X

x ray techniques (see also: radiography) zero g phenomena (see also: low gravity)

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AUTOMATIC CONTROL

Systems theory & design Optimal control systems Systems & control (applications) Robotics

MECHANICS OF SOLIDS

Elasticity Viscoelasticity Plasticity & viscoplasticity Composite material mechanics Cables, ropes, beams, etc. Plates, shells, & membranes Structural stability (buckling, postbuckling) Electromagneto solid mechanics Soil mechanics (basic) Soil mechanics (applied) Rock mechanics Material processing Fracture processes Fracture mechanics Experimental stress analysis Material test techniques Structures (basic) Structures (ground) Structures (ocean & coastal) Structures (mobile) Structures (containment) Friction & wear Machine elements Machine design

Fastening & joining

MECHANICS OF FLUIDS

Rheology **Hydraulics** Incompressible flow Compressible flow Rarefied flow Multiphase flows Wall layers (including boundary layers) Internal flow (pipe, channel, Couette) Internal flow (inlets, nozzles, diffusers, & cascades) Free shear layers (mixing layers, jets, wakes, cavities, & plumes) Flow stability Turbulence Electromagneto fluid & plasma dynamics Naval mechanics Aerodynamics Machinery fluid dynamics Lubrication Flow measurements & visualization

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Micromeritics Porous media Geomechanics Earthquake mechanics Hydrology, oceanography, & meteorology

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Matematicheskaya. Alma-Ata Izvestiya Akademii Nauk Latviiskoi SSR, Seriya Fizicheskikh i

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Das, Arabindo—FRG

Dasgupta, Gautam-USA Datta, Prosun K-India Datta, Subhendu K-USA Davies, Glyn A O-UK Davis, J L—USA Davis, L Berkley, Jr—USA Davis, Michael R-Australia Davis, P K-USA Davydov, Isay-USA Dawe, Donald J-UK Dawoud, Ramzy H-Egypt De Fouquet, Jacques-France Debnath, Lokenath-USA Deissler, Robert G-USA Del Piero, Gianpietro-Italy Delale, Feridun-USA Dembicki, Eugeniusz-Poland Dempsey, John P-USA Demuren, Ayodeji O-FRG de Neeve, Pieter F-Canada de Oliveira, Joao G-USA de Pater, Anton D The Netherlands de Pater, Cornelis—
—The Netherlands Deresiewicz, Herbert-USA Desai, Shivaraj S-India de Socio, Luciano M-Italy Deutsch, Ioan I-Romania DeSanto, J A-USA de Vahl Davis, Graham-Australia DeWolf, John-USA Dhaliwal, Ranjit S-Canada Dharani, L R-USA Diaconita, Vasile-Romania Diaconu, Mihail V-Romania Diaz, L A-USA Dickerson, J R-USA Dietrich, Lech-Poland Dikmen, Murat-Turkey Dimitriu, Dan V-Romania Djukic, Djordje S-Yugoslavia Dobanda, Eugene-Romania Dodd, Bradley P-UK Dodge, Franklin T-USA Doligalski, Thomas L-USA Done, George T S-UK Dong, Stanley B-USA Doraiswamy, Laxmangudi K -India Dorey, Graham-UK Dorinson, A-USA Dorosz, Stanislaw-Poland Doshi, Mahendra R-USA dos Reis, Henrique L M-USA Dougalis, Vassilios-Greece Dougall, Richard S-USA Dougill, John W—UK Dowell, Millard F—USA Dragon, Andrzej-France Drew, Donaid A-USA Drouin, G-Canada Drubka, R-USA Drucker, D C-USA Dubey, R-Canada Dugan, John P-USA

Dukkipati, Rao Venkateswara

Dulikravich, George S-USA

Dunavant, David A-USA

Dunder, Vera F-USA

Durban, David-Israel

Durbin, Paul A-USA

Durelli, A J-USA Durvasula, S-India

Dumitrescu, Horia I-Romania Dumitrescu, Lucian Z-Romania

-Canada

Duszek, Maria K—Poland Dutton, J C—USA Dym, Clive L—USA Dyrbye, Claes—Denmark Dziedzic, Jerzy S—Poland

E

Eades, James B-USA Earmme, Youn Young -Republic of Korea Eason, George-UK Eatock-Taylor, Rodney-UK Eddingfield, David L-USA Edwards, Gordon-Brunei Eggers, Klaus W H-FRG Eisenklam, Paul-UK Ejike, Uwadiegwu B C O-Nigeria El-Hawary, Ferial-Canada El-Hawary, Mohamed E-Canada Elcrat, Alan R-USA Elishakoff, Isaac-Israel Ellis, J-UK ElMaraghy, Hoda—Canada Ene, Horia E-Romania Engelbrecht, Juri-USSR Engelmann, Folker -The Netherlands Ensminger, Dale-USA Epstein, Howard I-USA Epstein, Marcelo-Canada Erdi, Balint-Hungary Erickson, John C, Jr-USA Ertepinar, Aybar-Turkey Etheridge, David W-UK Etsion, Izhak-Israel Ettema, Robert-USA Eversman, Walter-USA Everstine, Gordon C-USA Ezzat, Hazem A-USA

F

Fabrikant, Valery I-Canada Fabrizio, Mauro-Italy Faeth, Gerard M-USA Faggiani, Sergio-Italy Fairbanks, F-UK Farouk, Bakhtier-USA Fasanella, E L-USA Fasano, Antonio-Italy Fatic, Vuk M-USA Favretti, Gustavo-Italy Feijoo, Raul A-Brazil Fejer, Andrew A-USA Feldman, D S-USA Felske, James-USA Fenton, Robert G-Canada Fenves, Steven J-USA Fernandez Long, Hilario -Argentina Ferreri, Juan C-Argentina Fertis, Demeter G-USA Ferziger, Joel H-USA Fiala, Vladimir-Czechoslovakia Filemon, Elisabeth-Hungary Finkelstein, Stanley M-USA Finlayson, Bruce A-USA Fioravanti, Maximo-Argentina Fishman, L-USA Fiszdon, Wladyslaw-FRG Flack, Ronald D-USA Fleming, David P-USA Fletcher, Leroy S-USA Foral, Ralph F-USA Forbes, T G-UK

Haydl, Helmut M—Canada Haynes, Donald F—USA

Hebeker, F-K-FRG

Forristall, George Z-USA Fox. Robert W-USA Franchi, Alberto-Italy Frediani, Aldo-Italy Freire, J L-Brazil Freudenstein, Ferdinand-USA Friedman, Edward-USA Friend, George-Australia Frisch-Fay, Robert-Australia Fu, Kuan-Chen-USA Fuhs, Allen E-USA Fukuda, Hiroshi-Japan Fukuoka, Hidekazu-Japan Fulop, Z-Hungary Funaioli, Ettore-Italy Fusco, Domenico-Italy

G

Gai. S L-Australia

Gamer, U-Austria

Gampert, Bernhard-FRG

Gamski, Kazimierz-Belgium

Gandhidasan, P-Trinidad Gane, N-Australia Ganesan, N-India Gangli, Peter-Hungary Ganowicz, Ryszard-Poland Gaonkar, Gopal H-India Gardner, Richard A-USA Garg, Vijay K-India Garrad, A D-UK Gaspar, Zsolt-Hungary Gaunaurd, G C-USA Gaur, Yogeshwar N—India Gawronski, Włodzimierz—FRG Gdoutos, Emmanuel-Greece Geerling, Joseph J P
—The Netherlands Genetti, William E-USA Gerrard, John H-UK Ghaswala, Soli K-India Ghering, Walter L-USA Ghetti, Augusto-Italy Ghinassi, Giuseppe-Italy Ghiocel, Dan V-Romania Ghosh, Bhabani C-India Ghosh, Mihir K-USA Gibson, R F-USA Gill, Mohammad A-USA Gill, Samuel S-UK Gillis, Peter P-USA Ginsburg, S-USA Gioda, Giancarlo-Italy Gioncu, Victor-Romania Giovannozzi, Renato G-Italy Giri, Jagannath-USA Giuliana, Francisco-Argentina Gladwell, Graham M L-Canada Glenn, Lewis A-USA Gobl, Richard-Hungary Godoy, L A-Argentina Gokhman, Alexander-USA Golecki, Josef J-Israel Gollahalli, Subramanyam R-USA Gopal, Raj-USA Gopalsamy, K-Australia Gopinath, K-India Gorecki, Zenon-Poland Gorez, Raymond R D J-Belgium Goto, Norihiro-Japan Gotoh, Kanefusa-Japan Gotoh, Manabu—Japan Gottenberg, William G—USA Gottifredi, Juan Carlos-Argentina Govindaraju, S P-India Goyal, Erij K-India

Graff, Karl F-USA Graff, S-USA Grandt, Alten F. Ir-USA Gratch, Serge-USA Gray, Thomas G F-UK Green, Theodore-USA Greenberg, Michael D-USA Greenwood, Donald T-USA Gregory, Malcolm S-Australia Gregory, R Douglas-UK Greitzer, E M-UK Griffith, Peter-USA Griffith, Wayland C-USA Griffiths, David-UK Grigoriu, M-USA Grivas, Dimitri A-USA Groff, Edward G-USA Grootenboer, HJ The Netherlands Gross, Dieter-FRG Grysa, Krzysztof W-Poland Guderley, Karl G-USA Guenther, Ronald B-USA Gulliver, John-USA Gupta, A L-India Gupta, Ashwani K-USA Gupta, Bharatbhushan-France Gupta, Gopal D-USA Gupta, Madan M-Canada Gupta, Murli M-USA Gupta, Ramesh C-Singapore Gupta, S C-India Gupta, Tej R-USA Gurel, Okan-USA Gurpinr, Aybars-Belgium Guzelsu, Nejat-USA Gyulai, Francisco F-Romania

H

Habib, Izzedin S-USA Habip, L M-FRG Haddow, J B-Canada Haftka, Raphael-USA Hagedorn, Karl E-FRG Hagedorn, Peter-FRG Hahn, Eric J-Australia Hahn, Hans G-FRG Haji-Sheikh, Abdolhosseim-USA Halford, Gary R-USA Hammel, Juergen W-FRG Hammitt, Frederick G-USA Hammond, G P-UK Hancock, G J-UK Handscomb, David C-UK Hanjalic, Kemal-Yugoslavia Hansen, Erik B-Denmark Hanus, Gary J-USA Hanuska, Alexander -Czechoslovakia Haritos, G K-USA Harleman, D R F-USA Harrington, R S-USA Harris, S Dyer-USA Harrison, H Ronald-UK Hartley, Craig S-USA Hartranft, Ronald I-USA Harvill, L R-USA Hassager, Ole-Denmark Hassid, Samuel-Israel Hauger, Werner-FRG Haupt, Peter-FRG Haut, R C-USA Hawks, Roger J-USA Hawkyard, J B-UK Hay, Nessim I-UK Hayashi, Kozaburo-Japan

Heffington, Warren-USA Heinisch, Roger P-USA Heller, Robert A-USA Helm, Laszlo-Hungary Hemp, W S-UK Hendricks, Scott L-USA Hennecke, Dietmar K-FRG Henry, Remy J-France Henshall, John L-UK Herbeck, Margot-FRG Herman, Harry—USA Hermance, C E—USA Herrmann, Klaus P-FRG Hess, John L-USA Hess, Ronald A-USA Hewit, James R-UK Hickox, Charles E, Jr-USA Higuchi, Hirosini-USA Hikita, Tsutomu-Japan Hilton, Peter D-USA Himmelblau, David M-USA Hirsch, Charles-Belgium Hobbs, Roger E-UK Hochmuth, R M-USA Hocking, L M-UK Hodge, James K-USA Hodge, Philip G, Jr-USA Hodgson, John P-UK Hoenig, Alan-USA Hoffman, Allen H-USA Hoffman, Karl H-FRG Holden, A V-UK Holly, Forrest M, Jr-USA Holzer, Siefried M-USA Homma, H-Japan Hoogstraten, Hendrik W The Netherlands Hori, Yukio-Japan Horie, Yasuyuki-USA Horowitz, Jeffrey S-USA Horrigmoe, Geir-Norway Hoshide, Toshihiko-Japan Hoskin, B C-Australia Hoskins, Ronald F-UK Houghton, J Richard-USA Housner, George W-USA Hovanessian, Shahen A-USA Howarth, R B-USA Howe, Denis-UK Howe, Michael S-UK Howell, John R-USA Howes, Walton L-USA Hrudey, T M—Canada Hrycak, Peter—USA Hsieh, B J-USA Huang, Thomas T-USA Hubbard, Mont-USA Hubbard, Robert P-USA Huebschman, Eugene C-USA Hui, D-USA Huiskes, R-The Netherlands Hult, Jan A H-Sweden Humble, S-UK Hunt, E C-USA Hunt, Julian C R-UK Hunt, Kenneth H-Australia Hurwitz, F I-USA Huseyin, Koncay-Canada Huston, Ronald L-USA Hutchings, Ian M-UK Huul, Niels H-USA

Hyca, Milan-Czechoslovakia

Hyer, Michael W-USA

Hyman, William A-USA

Ibrahim, Raouf A—USA
Ibrahim, S—USA
Idelsohn, S—Argentina
Iesan, Dorin—Romania
Ignaczak, Jozef—Poland
Ilyas, M—UK
Imber, Murray—USA
Inayatullah, G—India
Ingham, Derek B—UK
Inoue, Tatsuo—Japan
Ioakimidis, N I—Greece
Irvine, H M—Australia
Ispolov, Yury G—USSR
Ivakhnenko, Aleksey G—USSR
Iyengar, K T S—India
Iyengar, N G R—India

J

Jaburek, Friedrich-Austria Jackson, Andrew-USA Jackson, J E-USA Jacquot, Pierre-Switzerland Jacyno, Zdzislaw-Canada Jagoda, Jechiek I-USA Jain, Subhash C-USA Jukubowski, Gerald S-USA Jaluria, Y-USA James, R D-USA Janna, William S-USA Jaros, Petr-Czechoslovakia Jarzyna, Henryk-Poland Jaswon, Maurice A-UK Jaumotte, Andre L-Belgium Javornicky, Jan-Czechoslovakia Jeffers, Robert G-USA Jeffrey, Alan-UK Jepps, George-Australia Jerina, K-USA Jira, Josef-Czechoslovakia Jirousek, Jaroslav-Switzerland Jischa, M-FRG Johannesen, Niels Holm-UK Johnson, Alastair F-UK Johnson, Glen E-USA Johnson, Ray C-USA Jones, Norman-UK Jones, W B-USA Joshi, P B-USA Joulain, D A-France Junkins, John L-USA

K

Kabelka, Josef-Czechoslovakia Kacprzynski, Jerzy J-Canada Kaczkowski, Zbigniew—Poland Kadalbajoo, M D—India Kaercher, Hans J-FRG Kalani, Mohan-India Kaliszky, Sandor-Hungary Kalkof, H G-FRG Kamel, Hussein A-USA Kamiya, Norio-Japan Kapur, A D-Nigeria Kar, R C-India Karagozian, A R-USA Karasudhi, Pisidhi-Thailand Karlsson, Lennart-Sweden Kasperkiewicz, Janusz-Poland Kassoy, David R-UK Kathiresan, Krishnaswamy-USA Kawaguti, Mitutosi-Japan

Kawahara, Mutsuto—Japan Kaza, K R V—USA Keey, Roger B-New Zealand Keith, Theo G-USA Kelkel, K-FRG Keller, Robert J-Australia Kelly, Robert E-USA Kendall, James M, Jr-USA Kennedy, Francis E, Jr-USA Kerle, H-FRG Kern, G-Austria Kesava Rao, B-India Khan, Akhtar S-USA Kiang, R L-USA Kikuchi, Fumio-Japan Kingston, J G—UK Kirchner, Helmut—USA Kirmser, Philip G-USA Kisbocskoi, Laszlo-Hungary Kishor, Bishan-India Kitagawa, Hiroshi—Japan Kitching, Ronald—UK Klepp, Horst J-FRG Klopocki, Jan—Poland Knabe, W—Nigeria Knets, Ivars V-USSR Kobayashi, Albert S-USA Kobayashi, Shiro-USA Kollmann, Franz Gustav-FRG Kolonits, F-Hungary Komanduri, R-USA Konig, Jan Andrzej-Poland Konish, H J-USA Koopman, Nelson-USA Koplik, Bernard-USA Kopriva, Vladimir-Czechoslovakia Kordulla, Wilhelm-FRG Kordyban, Eugene S-USA Korving, C-The Netherlands Kotorynski, Walter P-Canada Kotsovinos, Nikos-Greece Kottik, Peter-Austria Kounadis, Anthony N-Greece Kovacs, Laszlo-Hungary Kowalski, Stefan J-Poland Kraft, Edward M-USA Krajcinovic, Dusan-USA Kratochvil, Milan-Czechoslovakia Krejci, Ludek-Czechoslovakia Krenk, Steen-Denmark Krisch, Alfred-FRG Krishna, Murty, A V-India Krishna, Dharmavaram Venkatachar -India Krishnamurthy, A R-India Krishnamurthy, L-USA Krishnasamy, Settiana G-Canada Kristek, Vladimir F -Czechoslovakia Kriz, R D-USA Krousgrill, C M, Jr-USA Ku, Albert Bee-USA Kubik, Jozef-Poland Kubo, Shiro—Japan Kucera, Jan—USA Kuehn, Thomas H-USA Kuepper, Tassilo-FRG Kuhn, Guenther-FRG Kuiken, G D C-The Netherlands Kuipers, M-The Netherlands Kulacki, F A-USA Kulakowski, Bohdan T-USA Kulkarni, Anil K-USA Kulshrestha, Prem K-USA Kunz, D L-USA Kux, Jurgen H-FRG Kuzman, Dennis C-USA

Kwiecinski, Marek-Poland

Kyriakides, Stelios-USA

L

Laermann, Karl-Hans-FRG Lakkad, Subhash C-India Lakshmana Gowda, B H-India Lakshmana Rao, N S-India Lakshmana Rao, S K-India Lakshminarayana, K-India Ial, Krishna-India Lamb, J Parker-USA Lambourne, N C-UK Lance, R H-USA Landahl, M-Sweden Landweber, Louis-USA Lang, Sidney B-Israel Lange, Horst R-FRG Langford, Aubrey F W-Australia Larock, Bruce E-USA Lauer, James L-USA Laufer, John—USA Laura, P A—Argentina Laushey, Louis M-USA Law, K H-USA Lawson, Thomas V-UK Lazzarino, Lucio-Italy Leduc, Bernard-Belgium Lee, A J C—UK Lee, C W—USA Lee, Hao-China Lee, Lawrence H N-USA Lee, Yu-Tai-USA Lefkowitz, Samuel G-USA Legros, J C-Belgium Lenhart, S M-USA Lepik, U-USSR Letelier S, Mario F-Chile Leung, Andrew Y T-UK Leutheusser, Hans J-Canada Levi, Enzo-Mexico Levin, A E-USA Levinson, David A-USA Levinson, Mark -USA Levy, A J-USA Levy, Samuel-USA Lew, John S—USA Lewalle, J—USA Lewin, Peter A-USA Lewis, Edward V-USA Leyer, Jean C-France Leyko, Jerzy Z-Poland Li, V C-USA Libai, Avinoam-Israel Liberatore, Gianfranco-Italy Librescu, L-Israel Lichtarowicz-UK Lienhard, John H—USA Lieu, D K—USA Lilley, David G-USA Lin, Chi-Wen-USA Lin, Husan-Chi-USA Lin, Shao-Pai-China Lin, Tung H-USA Lin, Wen H-USA Lincoln, John W-USA Lind, N C-Canada Lindholm, Ulric S-USA Lipkin, Joel—USA Lisini, G Gualberto—Italy Liszka, Tadeusz-Poland Little, Robert W-USA Litvin, Faydor-USA Liu, H-USA Lloyd, K H-Australia Logan, Trent R-USA Lonngren, K-USA

Loo, Ta-Cheng—USA
Loscutoff, Walter V—USA
Lou, Jack Y K—USA
Love, William J—USA
Lu, S Y—USA
Lu, S Y—USA
Lucianek, Wieslaw W—Poland
Lucianek, Wieslaw W—Poland
Ludema, Kenneth, C—USA
Lugner, Peter M—Austria
Luke, Yudell L—USA
Lumley, John L—USA
Lundbert, B—Sweden
Lush, Peter A—UK
Lutze, F H, Jr—USA
Luz, Eberhard—FRG
Lyczowski, R W—USA
Lyons, Thomas J—Australia

M

Mabey, D G-UK Mac Sithigh, Gearoid P-USA Maclaine-Cross, I L—Australia Macvean, Donald B—UK Madejski, Jan-Poland Madhav, Madhira R-India Madhusudana, Chakravarti V -Australia Madsen, Henrik O-Norway Maggiore, A-Italy Mahalingam, Selvadurai -Sri Lanka Mahrenholtz, Oskar H G-FRG Maier, Giulio-Italy Maiti, Surjya K-UK Majewski, W-Poland Majors, Harry, Jr—USA Majumdar, Alok K—USA Majumdar, Bankim C-India Makelainen, Pentti-Finland Malhotra, Ramesh C-India Malik, Moinuddin—India Malik, Shah N—USA Mall, Shankar-USA Mallik, Asok K-India Mallinson, Gordon D -New Zealand Malvern, Lawrence E-USA Mamalis, Athanasios G-Greece Mames, Jakub—Poland Mandl, P—Canada Mang, Herbert-Austria Manolis, George D-USA Manson, Numa-France Mansour, William M-Brazil Marangoni, Roy D-USA Margolis, Donald L-USA Markenscoff, Zanthippi-USA Marketos, E G-Greece Markland, Eric-UK Markstein, George H-USA Markus, Stefan-Czechoslovakia Marquis, Jeffrey -USA Marriott, Douglas L-USA Marsicano, Fenix R—Argentina Marsland, David B—USA Martin, Charles J-USA Martin, Charles S-USA Martin, Gregory D-USA Martins Ferreira, Sergio M-Brazil Marvin, Joseph G-USA Mashelkar, Raghunath A-India Masliyah, Jacob H-Canada Mason, J C-UK Masri, S-USA Massel, Stanislaw R-Norway

Masson, Henri A-Belgium Mather, J S B-UK Mathur, Mukundnarain N-India Matsumoto, Eiichi-Japan Maugin, Gerard A-France Mawdsley, John A-UK McCalley, Robert B, Jr-USA McClure, Carl K-USA McGowan, Jon-USA McKee, S-UK McLean, John L-USA Meade, Kevin P-USA Medek, Frank-Czechoslovakia Medwadowski, Stefan J-USA Mei, C-USA Meijers, P—The Netherlands Mendes de Sousa, Antonio C -Canada Meneghetti, Umberto-Italy Mengi, Yalcin-Turkey Merchant, Howard C-USA Merckx, Kenneth R-USA Merilo, Mati-USA Merker, Gunther P-FRG Merte, Herman-USA Meskouris, Konstantin-FRG Messerle, Hugo K-Australia Metz, L D-USA Meyer, Max-UK Meyerhof, G G-Canada Meyers, A-FRG Middleman, Stanley-USA Mikkola, Martti, J—Finland Mikolaitis, David W—USA Miles, J P-UK Miller, A K—USA Miller, Gerald E—USA Miller, Richard K-USA Miloh, Touvia-Israel Minderhoud, P-The Netherlands Minster, Jiri-Czechoslovakia Misra, Jagadis Chandra—India Mital, V—India Miyake, Yukata-Japan Mizutani, Yukio-Japan Mlejnek, Hans Peter-FRG Moeinzadeh, M H-USA Mohanty, Aswini Kumar-India Monkewitz, Peter A-USA Montgomery, Stephen R-UK Mordfin, Leonard-USA Morduchow, Morris-USA Morecki, Adam-Poland Morgan, Kenneth-UK Morgan, William B-USA Moroianu, Adrian A-Romania Morris, Phillip J-USA Moses, Fred-USA Mote, C D, Jr-USA Moulden, Trevor-USA Mroz, Zenon-Poland Mujumdar, Arun S-Canada Mukherjee, B—Canada Mukherjee, Dinabandhu—India Muki, Rokura-USA Mulholland, George P-USA Mullan, Philip J-USA Mullen, Robert L-USA Muller, Peter C-FRG Munteanu, Ioan I-Romania Murakami, Sumio-Japan Murotsu, Yoshisada—Japan Murrow, Harold N—USA Murthy, M G K-India Murthy, P N-India Murzewski, Janusz W-Poland Muszynska, Agnieszka-USA

Myasnikova, Ljuba P-USSR

Myers, Michael K-USA

N

Na, Tsung Y-USA Nachman, Arje-USA Naerlovic-Veljkovic, Natalija -Yugoslavia Nagaki, S-Japan Nagaraj, H S-USA Nagaraj, V T-India Nagaraja, Yelagalavadi R-India Nair, Prasad K-USA Nair, Sudhakar E-USA Nakagawa, Noritoshi—Japan Nakamizo, Takayoshi—Japan Nalluri, C-UK Namba, Masanobu-Japan Nandanan, M-India Naprstek, Jiri-Czechoslovakia Narasimhan, Mysore N L-USA Narasimhan, Sampathiengar Narayanan, R-UK Nariboli, Gundo A-USA Nash, William A-USA Natarajan, R-USA Nathan, Noel D-Canada Nau, B S-UK Navon, I M-USA Nayar, Brij M-India Neale, Kenneth W-Canada Nelson, Ivan-USA Nestler, Donald E-USA Nethercot, D A-UK Neubert, Vernon H-USA Neuhaeuser, Hansjoerg-Austria Neve, Raymond S-UK Newman, John B-USA Ng, Terry-USA Nica, Alexandru C-Romania Nicholas, Theodore-USA Nicholson, David W-USA Nickell, Robert E-USA Nicolaou, Michael C-Brazil Nield, Donald A-New Zealand Niemann, Hans-Juergen-FRG Nikbin, Kamran-UK Niordson, Frithiof I-Denmark Noor, Ahmed K-USA Norrie, Douglas H-Canada Norwood, Frederick R-USA Nova, Roberto-Italy Novak, Pavel-UK Nowak, Andrzej S-USA Nowinski, Jerzy L-USA

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O'Neill, Michael E—UK
Ochoa, Ozden O—USA
Ockendon, H—UK
Ockendon, John R—UK
Oden, J Tinsley—USA
Ogura, Keiji—Japan
Oh, S I—USA
Ohji, Kiyotsugu—Japan
Ohlson, Nils-Gunnar—Sweden
Ohno, Nobutada—Japan
Ojha, S K—India
Okabe, Masayuki—Japan
Oldham, K—UK
Olesiak, Zbigniew—Poland
Olhoff, Niels—Denmark
Oliver, A R—Australia
Olivero, Giuseppe—Italy

Olszowski, Bogdan—Poland Orasanu, M T.—Romania Oravecz, Kalman I.—USA Orlando, Alcir F.—Brazil Orthwein, William C.—USA Osburn, James O.—USA Osman, M O M.—Canada Ottaviani, M.—Italy Owen, J M.—UK

P

Pagano, Nicholas J-USA Page, Robert H-USA Pai, B R-India Pai, S I-USA Pai, T G-India Paintal, Amreek S-USA Paipetis, Stephen A—Greece Pal, Pannalal—India Palaniswamy, Sulur P-India Palczewski, Andrzey-Poland Paldas, M-India Pamadi, Bandu N-India Pan. H H-USA Pan, K C-USA Panagiotopoulos, Panos-Greece Panayotounakos, D E-Greece Pande, G C-Greece Papailiou, Kyriacos D-Greece Papastavridis, John G-USA Parameswaran, Manjeri A-India Parhizgar, S-USA Parihar, Kailash Singh-India Park, Seung O-Republic of Korea Parker, R-UK Parkins, David W-UK Parks, Patrick C-UK Parks, V J-USA Pascovici, Mircea D-Romania Paslay, Paul R-USA Passman, S L-USA Patel, Vithal A-USA Patra, Eaidyanath-India Patterson, C-UK Paul, Burton-USA Paul, John P-UK Payne, Fred R-USA Payne, Lawrence E-USA Payton, Robert G-USA Pazis, Dimitrios N-Greece Pearson, John—USA Pearson, P H O—Australia Pecinka, Ladislaw-Czechoslovakia Peck, Robert E-USA Pecseli, H L-Denmark Pedersen, Pauli-Denmark Pedersen, Preben T-Denmark Pei, D C T-Canada Pengelley, C Desmond-USA Peregrine, D H-UK Perez, Manuel P-Spain Perju, Dan-Romania Perl, Modrechai-Israel Perlea, Vlad-Romania Perreira, N Duke-USA Persson, Ake-Sweden Perycz, Stefan-Poland Peters, David A-USA Petrascu, M E-Romania Petrie, CJ S-UK Phan-Thien, Nhan-Australia Phillips, Aris-USA Phillips, Winfred M-USA Pian, Theodore H H-USA Piechor, K-Poland Pietraszek, T-Nigeria

Pighinei, Umberto-Italy Pih, Hui-USA Pindera, J T—Canada Pinsky, P M—USA Pinto, John G-USA Plank, R J-UK Platten, J K-Belgium Platzer, Max F-USA Plaut, Raymond H-USA Plesha, Michael E-USA Pletcher, Richard H-USA Plumb, Ovid A-USA Pohle, Frederick V-USA Pokorny, Bohumil -Czechoslovakia Polizzotto, Castrenze-Italy Pollar, Andrew-Canada Pop, Ioan-Romania Pope, Malcolm H-USA Popelar, Carl H-USA Popescu, Hristache-Romania Popescu, Michail-Romania Popescu, Mihail E-Romania Popiel, C O-Poland Popovici, Adrian M-Romania Popoviciu, Mircea O-Romania Popplewell, Neil-Canada Poreh, M-Israel Porteiro, Jose L F-USA Porter, Robert W-USA Porumb, Dorin-Romania Potter, Merle C-USA Powe, Ralph E-USA Powell, Robert L-USA Powell, T Conley-USA Prabhakaran, R-USA Prabhu, Bantwal S-India Prakash, J—India Prasad, Birendra—USA Prasad, M G-USA Prassianakis, John N-Greece Prathap, G-FRG Prevost, Jean-Herve-USA Prud'homme, Roger-France Prussing, John E-USA Przirembel, C E G-USA Pullman, W A-Australia Puri, Pratap, -- USA Purohit, Niranjan K-India Purohit, Sharad C-India Purushotham, C M-India Putnam, Abbott A-USA

Q

Quartapelle, L—Italy Quinn, D W—USA Qureshi, Z H—USA

R

Rafiroiu, Mihai—Romania
Raftopoulos, Demetrios D—USA
Raghavacharyuly, E—India
Raghavan, M R—India
Raghavan, Ramjee—USA
Raj, Rishi—USA
Rajappa, N R—India
Rajar, Rudi—Yugoslavia
Rajar, Rudi—Yugoslavia
Rajvanski, S C—India
Rakoswki, Gustaw—Poland
Ramamurti, V—India
Ramaprian, Belakavadi R—USA
Ramesh, C K—India
Ramkissoon, Harold—Trinidad
Ramm, Heinrich J—USA

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Russian Letter Cap. Ital.		Mathematical Reviews; Zentralblatt für Mathematik	Bulletin Signalétique	Applied Mechanics Reviews	Science Abstracts	U.S. Library of Congress	Amer. Slavic & E. European Review	Journal of Symbolic Logic
A	a	a	8.	8.	a	a	8.	8.
Б	6	b	b	b	b	b	b	b
В	6	V	V	V	V	v	V	v
Г	2	g	g d	g	g d	g	g	g
Д	9	d	d	d	d	d	d	d
E	e	0	е	0	е	6	e	6
Ė	ë	е	ē	в	ě	ě	ě	ē
Ж	ж	ž	zh	zh	zh	zh	ž	ž
3	3	z	z	z	z	Z	z	Z
И	u	i	i	i	i	i	i	i
Й	ŭ	ĭ	j	i	ĭ	ĭ	j	j
K	K	k	k	k	k	k	k	k
Л	A	1	1	1	1	1	1	1
M	M	m	m	m	m	m	m	m
H	H	n	n	n .	n	n	n	n
0	0	0	0	0	0	0	0	0
П	n	P	P	p	p	P	P	p
P	P	r	r	r	r	r	r	r
C	C	8	8	8	8	8	8	8
T	m	t	t	t	t	t	t	t
У	y	u	u	u	u	u	u	u
Φ	ø	f	f	f	f	f	f	f
X	x	h	kh	kh	kh	kh ts ch sh	kh	h
Ц	4	С	C	ts	ts	ts	C	c
Ч	ų	č	ch	ch	ch	ch	ŏ	č
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Щ	щ	šč	shch	shch	shch	shch	šč	šč
Ъ	8							
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Я	я	ja	ja	ya	ya	îa.	ja	á

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	GREEK		ENGL	SH	PSEUDO	ENGLISH	RUSS	IAN	M	UTE
Г	gamma	g	A	a	В	v	ж	zh		Ь
Ц	delta	d	Б.	ь	3	Z	И	i		Ъ
К	kappa	k	\mathbf{E}	e	H	n	Ц	ts		Й
I	lambda	1	0	0	C	s	Ч	ch		
П	pi	p	\mathbf{M}	m	У	00	Ш	sh		
P	rho	r	\mathbf{T}	t			Ш	shch		
Φ	phi	f					Э	c	ы	y
\mathbf{X}	chi	kh					Ю	yu	R	y

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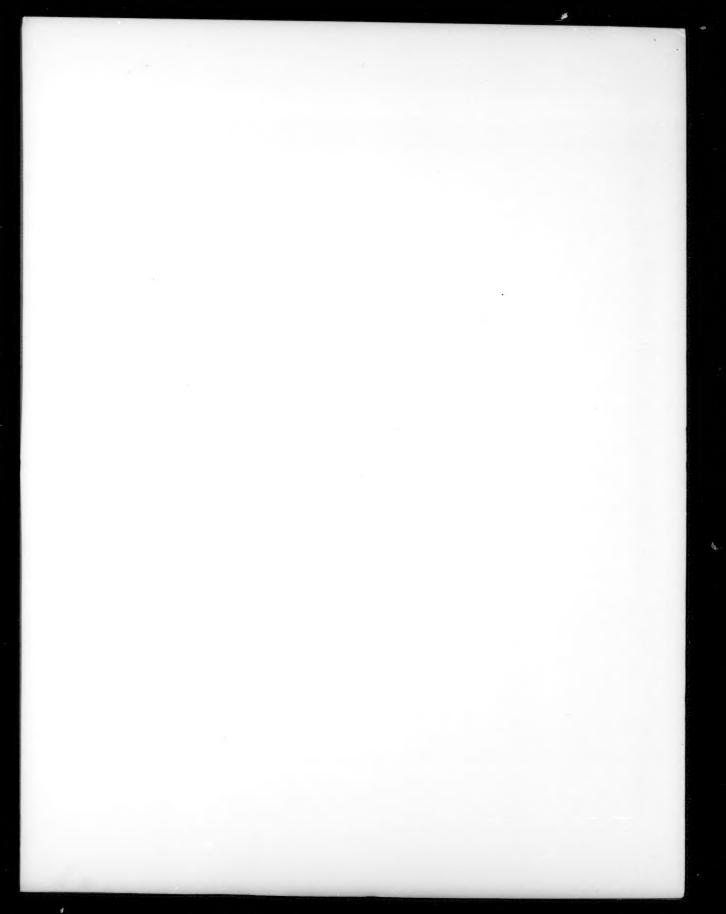


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